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**START**

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**Department of Energy**  
 Richland Operations Office  
 P.O. Box 550  
 Richland, Washington 99352

OCT 27 1995

96-PCA-019

Mr. Moses N. Jaraysi  
 Unit Supervisor  
 Nuclear Waste Program  
 State of Washington  
 Department of Ecology  
 1315 West Fourth Avenue  
 Kennewick, Washington 99336-6018

Mr. Joseph J. Witczak  
 Unit Supervisor  
 Regulatory and Technical  
 Support Unit  
 Nuclear Waste Program  
 State of Washington  
 Department of Ecology  
 P.O. Box 47600  
 Olympia, Washington 98504-7600

Dear Messrs. Jaraysi and Witczak:

TRANSMITTAL OF THE 4843 ALKALI METAL STORAGE FACILITY CLOSURE PLAN, REVISION 1 (S-4-1), THE 4843 ALKALI METAL STORAGE FACILITY NOTICE OF DEFICIENCY (NOD) RESPONSE TABLE (S-4-1), AND THE 4843 ALKALI METAL STORAGE FACILITY STATE ENVIRONMENTAL POLICY ACT CHECKLIST (S-4-1)

Enclosed are DOE/RL-90-49, 4843 Alkali Metal Storage Facility Closure Plan, Revision 1 (S-4-1), the 4843 Alkali Metal Storage Facility Notice of Deficiency (NOD) Response Table (S-4-1), and the 4843 Alkali Metal Storage Facility State Environmental Policy Act (SEPA) Checklist. These documents are being submitted by the U.S. Department of Energy, Richland Operations Office (RL) and Westinghouse Hanford Company (WHC) for review by the State of Washington Department of Ecology (Ecology). Submittal of these documents in October, fulfills the agreement made between RL and Ecology for inclusion of the 4843 Alkali Metal Storage Facility Closure Plan in Modification B to the Hanford Facility Resource Conservation and Recovery Act Permit.

Copies of this transmittal will be distributed to representatives of your respective organizations as follows:

- G. P. Davis, Ecology, Kennewick
- D. Bartus, EPA
- M. N. Jaraysi, Ecology, Kennewick
- Ecology Library, Lacey



Messrs. Jaraysi and Witczak  
96-PCA-019

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OCT 27 1995

Should you have any questions, please contact Ms. E. M. Mattlin of RL on (509) 376-2385 or Mr. F. A. Ruck III of WHC on (509) 376-9876.

Sincerely,



for James E. Rasmussen, Director  
Environmental Assurance, Permits,  
and Policy Division  
DOE Richland Operations Office

EAP:EMM



William T. Dixon, Director  
Environmental Services  
Westinghouse Hanford Company

## Enclosures:

1. 4843 Alkali Metal Storage  
Facility Closure Plan,  
Revision 1
2. 4843 Alkali Metal Storage  
Facility Notice of Deficiency  
(NOD) Response Table
3. 4843 Alkali Metal Storage  
Facility SEPA Checklist

## cc w/encls:

EDMC, H6-08 (2)  
G. Davis, Ecology  
D. Duncan, EPA  
R. Jim, YIN  
M. Jaraysi, Ecology  
D. Powaukee, NPT  
F. Ruck III, WHC  
J. Wilkinson, CTUIR

## cc w/o encls:

W. Dixon, WHC  
P. Miller, WHC  
S. Price, WHC  
R. Stanley, Ecology

9613459.0058

STATE ENVIRONMENTAL POLICY ACT (SEPA)  
ENVIRONMENTAL CHECKLIST FORMS

FOR

4843 ALKALI METAL STORAGE FACILITY  
RCRA CLOSURE PLAN  
REVISION 1  
SEPTEMBER 1995

WASHINGTON ADMINISTRATIVE CODE  
ENVIRONMENTAL CHECKLIST FORMS  
[WAC 197-11-960]

## SEPA ENVIRONMENTAL CHECKLIST

## A. BACKGROUND

## 1. Name of proposed project:

Closure of the 4843 Alkali Metal Storage Facility (4843 AMSF). This SEPA Checklist is being submitted concurrently with the 4843 AMSF closure plan. Information contained in this checklist pertains only to the 4843 AMSF. In the context of this document, 'site' refers to only the area covered by the physical structure of the unit.

## 2. Name of applicants:

U.S. Department of Energy-Richland Operations Office (DOE-RL); and Westinghouse Hanford Company (WHC).

## 3. Address and phone number of applicant and contact person:

U.S. Department of Energy  
Richland Operations Office  
P.O. Box 550  
Richland, Washington 99352

Westinghouse Hanford Company  
P.O. Box 1970  
Richland, Washington 99352

## Contact Persons:

J. E. Rasmussen, Division Director  
Office of Environmental Assurance,  
Permits, and Policy Division  
(509) 376-5441

W. T. Dixon  
Environmental Services  
Westinghouse Hanford Company  
(509) 376-0428

## 4. Date checklist prepared:

October 1995

## 5. Agency requesting the checklist:

Washington State  
Department of Ecology  
Mail Stop PV-11  
Olympia, WA 98504-8711

## 6. Proposed timing or schedule (including phasing, if applicable):

Construction of the 4843 AMSF (originally known as Building #3) was completed in 1971. From 1971 to 1980, Building #3 was used primarily as a tool shed. In 1980, Building #3 was relocated to its current site and renamed Building 4722-E. From 1980 to 1986, Building 4722-E was used as construction support for the Fuels and Material Examination Facility. In 1986, Building 4722-E was renamed 4843 AMSF. The 4843 AMSF began receiving dangerous and mixed alkali metal waste in April 1986. The 4843 AMSF has served as a waste management unit for the storage of dangerous and mixed alkali metal waste. This material is regulated under

1 the *Resource Conservation and Recovery Act (RCRA)* and by the Washington  
2 State Department of Ecology (Ecology) *Dangerous Waste Regulations*,  
3 Washington Administrative Code (WAC) Chapter 173-303.  
4

5 A closure plan (DOE/RL-90-49, Revision 1) is being submitted for the  
6 closure of the 4843 AMSF. The schedule for closure has not been  
7 determined at this time. Closure of the facility would begin upon  
8 notification by Ecology, and by the United States Environmental Protection  
9 Agency (EPA), of approval of the closure plan. The closure activities  
10 would be completed within 180 calendar days after approval of the plan by  
11 Ecology and the EPA.  
12

13 Final closure activities would be completed and certified in accordance  
14 with the closure plan.  
15

- 16 7. Do you have any plans for future additions, expansion, or further activity  
17 related to or connected with this proposal? If yes, explain.  
18

19 No.  
20

- 21 8. List any environmental information you know about that has been prepared,  
22 or will be prepared, directly related to this proposal.  
23

- 24 • This SEPA Checklist is being submitted to Ecology and the EPA  
25 concurrently with the 4843 AMSF Closure Plan.  
26
- 27 • A RCRA Part A Dangerous Waste Permit Application for the 4843 AMSF  
28 was submitted to Ecology in September 1987. Revision 1 of the Part A  
29 Permit Application was submitted in November 1987, and Revision 2 was  
30 submitted June 4, 1991.  
31
- 32 • A Hanford Site Facility (Sitewide) Part B Permit has been issued for  
33 the Hanford Site by the U.S. Environmental Protection Agency and the  
34 Washington State Department of Ecology (U.S. Environmental Protection  
35 Agency/State Identification Number WA7890008967). This permit  
36 contains information pertaining to the entire Hanford Site.  
37

38 Additional environmental information on the Hanford Site, in general, can  
39 be found in the following references: (1) *Final Environmental Impact*  
40 *Statement - Disposal of Hanford Defense High-Level, Transuranic and Tank*  
41 *Wastes*, DOE/EIS-0113 (U.S. Department of Energy, 1987, Richland,  
42 Washington), (2) *Hanford Site National Environmental Policy Act (NEPA)*  
43 *Characterization*, PNL-6415 (Revision 6, Pacific Northwest Laboratory,  
44 1994, Richland, Washington), and (3) *Draft Environmental Impact Statement*  
45 *-Decommissioning of Eight Surplus Production Reactors at the Hanford Site,*  
46 *Richland, Washington*, DOE/EIS-0119D (U.S. Department of Energy, 1989,  
47 Washington, D.C.).  
48

- 49 9. Do you know whether applications are pending for government approvals of  
50 other proposals directly affecting property covered by your proposal?  
51 If yes, explain.  
52

53 No other applications that would affect property associated with the  
54 4843 AMSF are known to be pending government approval.

- 1 10. List any government approvals or permits that will be needed for your  
2 proposal, if known.  
3

4 Ecology is the lead agency authorized to approve the closure plan for the  
5 4843 AMSF pursuant to the requirements of the WAC 173-303-610.  
6 The closure plan also must receive approval from the EPA. Ecology also is  
7 the lead agency for the Hanford Site Facility Part B Permit.  
8

- 9 11. Give a brief, complete description of your proposal, including the  
10 proposed uses and the size of the project and site.  
11

12 The proposed project is the closure of the 4843 AMSF. Clean closure is  
13 proposed as the condition for final closure of the 4843 AMSF. Clean  
14 closure is contingent on verification that all waste contaminants are  
15 removed to accepted action levels and that all equipment, structures,  
16 and/or other materials containing dangerous waste or waste residues  
17 associated with the 4843 AMSF have been removed from the site.  
18

19 The 4843 AMSF, excluding parking areas and loading areas, occupies an area  
20 of 148.6 square meters (1,600 square feet). The alkali metal wastes  
21 stored in this waste management unit were sodium and lithium. Mixed  
22 alkali metal waste was stored in the northern half of the building and  
23 dangerous alkali metal waste was stored in the southern half of the  
24 building. All stored dangerous waste has been removed from the 4843 AMSF  
25 as of May 10, 1995. The mixed waste was transferred to the Hanford  
26 Central Waste Complex. The nonradioactive waste was shipped offsite to an  
27 approved TSD facility.  
28

29 Alkali metals have the property of being very reactive in an air  
30 environment. As a result, any spills or releases of alkali metals are not  
31 anticipated to be found in an unreacted state. The compounds anticipated  
32 after reaction with the air are oxides, hydroxides, and carbonates of  
33 lithium and sodium. Closure would be achieved by removing surface  
34 deposits of sodium and lithium carbonates from the building and floor.  
35 Efforts would focus on the interior of the building where the waste was  
36 stored.  
37

38 Closure activities would include decontamination and visual verification,  
39 or removal and disposal of the structure and equipment. These activities  
40 would consist of the following steps (as necessary):  
41

- 42 1. Perform visual and radiological survey of building interior.
- 43 2. Decontaminate associated building equipment to below action levels.
- 44 3. Decontaminate building floor and walls.
- 45 4. Perform visual verification of the building and associated equipment  
46 to determine the effectiveness of decontamination procedures.
- 47 5. Repeat remediation and visual verification until removal of all  
48 contaminants above action levels is verified or the component is  
49 properly disposed of.  
50  
51  
52  
53  
54

- 1 6. Decontaminate equipment used in performing closure activities.  
2  
3 7. Designate and dispose of all contaminated materials and rinsates  
4 generated during the closure activities.  
5  
6 8. Certify that closure activities were completed in accordance with the  
7 approved plan.  
8

9 Action levels refer to chemical concentrations that prompt an action. For  
10 sodium and lithium carbonates, the action level is 10 percent weight per  
11 volume; therefore, a visual inspection would be sufficient to ensure  
12 dangerous waste concentrations are below the acceptable action levels.  
13

14 Following closure, if possible, the 4843 AMSF location would be restored  
15 to allow for the continued use of the building as a storage unit.  
16

- 17 12. Give the location of the proposal. Give sufficient information for a  
18 person to understand the precise location of the proposed project,  
19 including a street address, if any, and section, township, and range, if  
20 known. If a proposal would occur over a range of area, provide the range  
21 or boundaries of the site(s). Provide a legal description, site plan,  
22 vicinity map, and topographic map, if reasonably available.  
23

24 The 4843 AMSF is located in the northwest portion of the 400 Area of the  
25 Hanford Site approximately 8 miles (12.9 kilometers) north of Richland,  
26 Washington. Maps and plans of the 400 Area are contained in the 4843 AMSF  
27 closure plan with which this SEPA Checklist is being submitted. The west  
28 end of the 4843 AMSF provides part of the fence surrounding the 400 Area  
29 laydown area. The 4843 AMSF is located in the SE 1/4, NW 1/4, SW 1/4,  
30 Section 18, T11N, R28E.  
31  
32  
33

## 1 TO BE COMPLETED BY APPLICANT

EVALUATIONS FOR  
AGENCY USE ONLY2  
3  
4 B. ENVIRONMENTAL ELEMENTS5  
6 1. Earth

- 7
- 
- 8 a. General description of the site (indicate
- 
- 9 one): Flat, rolling, hilly, steep,
- 
- 10 mountainous, other.

11  
12 Flat.

- 13
- 
- 14 b. What is the steepest slope on the site
- 
- 15 (approximate percent slope)?

16  
17 Two loading ramps extend down and away from  
18 the 4843 AMSF at a slope of approximately  
19 1/2 inch per foot (4 percent). The land  
20 beneath the site is flat.

- 21
- 
- 22 c. What general types of soils are found on
- 
- 23 the site (for example, clay, sand, gravel,
- 
- 24 peat, muck)? If you know the
- 
- 25 classification of agricultural soils,
- 
- 26 specify them and note any prime farmland.

27  
28 The soil at the 4843 AMSF consists  
29 primarily of gravelly sands. No farming is  
30 permitted on the site.

- 31
- 
- 32 d. Are there surface indications or history of
- 
- 33 unstable soils in the immediate vicinity?
- 
- 34 If so, describe.

35  
36 No.

- 37
- 
- 38 e. Describe the purpose, type, and approximate
- 
- 39 quantities of any filling or grading
- 
- 40 proposed. Indicate the source of the fill.

41  
42 Does not apply.

- 43
- 
- 44 f. Could erosion occur as a result of
- 
- 45 clearing, construction, or use? If so,
- 
- 46 generally describe.

47  
48 Because of the flat topography, dry  
49 climate, and gravel surrounding the  
50 4843 AMSF, large scale erosion is not  
51 expected. Minor erosion due to wind and/or  
52 precipitation could occur occasionally.  
53

## TO BE COMPLETED BY APPLICANT

EVALUATIONS FOR  
AGENCY USE ONLY

- 1 g. Approximately what percent of the site will  
2 be covered with impervious surfaces after  
3 project construction (for example, asphalt  
4 or buildings)?

5  
6 Approximately 80 percent of the site is  
7 covered. No changes are planned.

- 8  
9 h. Proposed measures to reduce or control  
10 erosion, or other impacts to the earth, if  
11 any?

12  
13 Unpaved roadways and parking areas are  
14 covered with gravel to minimize wind  
15 erosion potential because of vehicular  
16 travel. No other erosion control methods  
17 are considered necessary.

## 2. Air

- 18  
19  
20  
21 a. What types of emissions to the air would  
22 result from the proposal (i.e., dust,  
23 automobile, odors, industrial wood smoke)  
24 during construction and when the project is  
25 completed? If any, generally describe and  
26 give approximate quantities if known.

27  
28 Minor amounts of exhaust will be generated  
29 by vehicles used to gain access to the  
30 site. Small quantities of dust could be  
31 generated by decontamination and sampling  
32 activities.

- 33  
34 b. Are there any offsite sources of emissions  
35 or odors that may affect your proposal?  
36 If so, generally describe.

37  
38 No.

- 39  
40 c. Proposed measures to reduce or control  
41 emissions or other impacts to the air,  
42 if any?

43  
44 Standard work procedures and emission  
45 controls.  
46

## TO BE COMPLETED BY APPLICANT

EVALUATIONS FOR  
AGENCY USE ONLY

## 1 3. Water

2  
3 a. Surface:

- 4
- 
- 5 1) Is there any surface water body on or
- 
- 6 in the immediate vicinity of the site
- 
- 7 (including year-round and seasonal
- 
- 8 streams, saltwater, lakes, ponds,
- 
- 9 wetlands)? If yes, describe type and
- 
- 10 provide names. If appropriate, state
- 
- 11 what stream or river it flows into.

12 No.

- 13
- 
- 14
- 
- 15 2) Will the project require any work
- 
- 16 over, in, or adjacent to (within
- 
- 17 200 feet) the described waters?
- 
- 18 If yes, please describe and attach
- 
- 19 available plans.

20 Does not apply.

- 21
- 
- 22
- 
- 23 3) Estimate the amount of fill and dredge
- 
- 24 material that would be placed in or
- 
- 25 removed from surface water or wetlands
- 
- 26 and indicate the area of the site that
- 
- 27 would be affected. Indicate the
- 
- 28 source of fill material.

29 None.

- 30
- 
- 31
- 
- 32 4) Will the proposal require surface
- 
- 33 water withdrawals or diversions? Give
- 
- 34 general description, purpose, and
- 
- 35 approximate quantities if known.

36 No.

- 37
- 
- 38
- 
- 39 5) Does the proposal lie within a
- 
- 40 100-year floodplain? If so, note
- 
- 41 location on the site plan.

42 No.

- 43
- 
- 44
- 
- 45 6) Does the proposal involve any
- 
- 46 discharges of waste materials to
- 
- 47 surface waters? If so, describe the
- 
- 48 type of waste and anticipated volume
- 
- 49 of discharge.

50 No.  
51

## TO BE COMPLETED BY APPLICANT

EVALUATIONS FOR  
AGENCY USE ONLY

## b. Ground:

- 1) Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities, if known.

No.

- 2) Describe waste materials that will be discharged into the ground from septic waste tanks or other sources, if any (for example: domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

Does not apply.

## c. Water Runoff (including storm water):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The Hanford Site receives 6 to 8 inches (15 to 20 centimeters) of annual precipitation. Any precipitation that occurs at the 4843 AMSF will flow away from the building and seep into the soil on and near the site. Because of the desert climate, evaporation greatly exceeds precipitation, thus, there is little recharge potential.

- 2) Could waste materials enter ground or surface waters? If so, generally describe.

No.

1  
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## TO BE COMPLETED BY APPLICANT

EVALUATIONS FOR  
AGENCY USE ONLY

- 1 d. Proposed measures to reduce or control  
2 surface, ground, and runoff water impacts,  
3 if any:  
4

5 All water used for cleaning and sampling  
6 activities will be collected and sent to an  
7 appropriate disposal unit on the  
8 Hanford Site.  
9

## 10 4. Plants

- 11 a. Check the types of vegetation found on the  
12 site:  
13

14  
15  deciduous tree: alder, maple, aspen,  
16 other  
17  evergreen tree: fir, cedar, pine,  
18 other  
19  shrubs  
20  grass  
21  pasture  
22  crop or grain  
23  wet soil plants: cattail, buttercup,  
24 bulrush, skunk cabbage, other  
25  
26  water plants: water lily, eelgrass,  
27 milfoil, other  
28  other types of vegetation  
29

30 Tumbleweeds  
31

- 32 b. What kind and amount of vegetation will be  
33 removed or altered?  
34

35 None.  
36

- 37 c. List threatened or endangered species known  
38 to be on or near the site.  
39

40 None. However, additional information  
41 concerning endangered and threatened plants  
42 on the Hanford Site can be found in the  
43 environmental documents referred to in the  
44 answer to Checklist Question A.8.  
45

- 46 d. Proposed landscaping, use of native plants,  
47 or other measures to preserve or enhance  
48 vegetation on the site, if any:  
49

50 None.  
51

## TO BE COMPLETED BY APPLICANT

EVALUATIONS FOR  
AGENCY USE ONLY

## 1 5. Animals

- 2  
3 a. Indicate any birds and animals which have  
4 been observed on or near the site or are  
5 known to be on or near the site:

6  
7 birds: hawk, heron, eagle, songbirds,  
8 other  
9 mammals: deer, bear, elk, beaver, other  
10 fish: bass, salmon, trout, herring,  
11 shellfish, other  
12

13 A variety of insects, birds, and mammals  
14 common to the Hanford Site, including  
15 pigeons, songbirds, rodents, and hares,  
16 have been observed in the vicinity of the  
17 4843 AMSF. Additional information on birds  
18 and animals on the Hanford Site can be  
19 found in the environmental documents  
20 referred to in the answer to Checklist  
21 Question A.8.  
22

- 23 b. List any threatened or endangered species  
24 known to be on or near the site.  
25

26 None. However, additional information  
27 concerning endangered and threatened  
28 species on the Hanford Site can be found in  
29 the environmental documents referred to in  
30 the answer to Checklist Question A.8.  
31

- 32 c. Is the site part of a migration route?  
33 If so, explain.  
34

35 The site is part of the region-wide Pacific  
36 flyway for waterfowl.  
37

- 38 d. Proposed measures to preserve or enhance  
39 wildlife, if any:  
40

41 None.  
42

## 43 6. Energy and Natural Resources

- 44  
45 a. What kinds of energy (electric, natural  
46 gas, oil, wood stove, solar) will be used  
47 to meet the completed project's energy  
48 needs? Describe whether it will be used  
49 for heating, manufacturing, etc.

## TO BE COMPLETED BY APPLICANT

EVALUATIONS FOR  
AGENCY USE ONLY

1 Electricity will be used for lighting.  
2 Fuel and oil will be used for vehicles and  
3 equipment.  
4

- 5 b. Would your project affect the potential use  
6 of solar energy by adjacent properties?  
7 If so, generally describe.

8  
9 No.

- 10  
11 c. What kinds of energy conservation features  
12 are included in the plans of this proposal?  
13 List other proposed measures to reduce or  
14 control energy impacts, if any:

15  
16 None.  
17

18 7. Environmental Health  
19

- 20 a. Are there any environmental health hazards,  
21 including exposure to toxic chemicals, risk  
22 of fire and explosion, spill, or hazardous  
23 waste, that could occur as a result of this  
24 proposal? If so, describe.

25  
26 The 4843 AMSF will be cleaned by removing  
27 or decontaminating all dangerous waste and  
28 waste residues to appropriate action  
29 levels. All proper procedures will be  
30 followed during these operations to  
31 minimize exposure to dangerous waste.  
32

- 33 1) Describe special emergency services  
34 that might be required.  
35

36 Hanford Site security, fire response,  
37 ambulance services, and a trained and  
38 fully equipped Hazardous Material Team  
39 are on call at all times in the event  
40 of an onsite emergency.  
41

- 42 2) Proposed measures to reduce or control  
43 environmental health hazards, if any:  
44

45 Environmental health hazards are  
46 expected to be minimal. Procedures to  
47 prevent and manage potential hazards  
48 are presented in the closure plan.  
49

## TO BE COMPLETED BY APPLICANT

EVALUATIONS FOR  
AGENCY USE ONLY1        b.    Noise  
2

- 3        1)    What types of noise exist in the area
- 
- 4                which may affect your project (for
- 
- 5                example: traffic, equipment,
- 
- 6                operation, other)?
- 
- 7

8                None.  
9

- 10       2)    What types and levels of noise would
- 
- 11                be created by or associated with the
- 
- 12                project on a short-term or a long-term
- 
- 13                basis (for example: traffic,
- 
- 14                construction, operation, other)?
- 
- 15                Indicate what hours noise would come
- 
- 16                from the site.
- 
- 17

18                Minor amounts of noise from traffic  
19                and equipment are expected on a short-  
20                term basis during day shift hours.  
21                The location of the 400 Area will  
22                prevent any detectable increase in  
23                noise levels off the Hanford Site.  
24

- 25       3)    Proposed measures to reduce or control
- 
- 26                noise impacts, if any:
- 
- 27

28                Vehicles and equipment will meet  
29                manufacturer's requirements for noise  
30                suppression. Though not required,  
31                noise protection will be available for  
32                use at the employee's option.  
3334       8.    Land and Shoreline Use  
35

- 36       a.    What is the current use of the site and
- 
- 37                adjacent properties?
- 
- 38

39                The 4843 AMSF is a part of the  
40                U.S. government-owned Hanford Site, which  
41                was used for the production of special  
42                nuclear materials and is now used for the  
43                management of waste associated with the  
44                production of those materials.  
45

- 46       b.    Has the site been used for agriculture?
- 
- 47                If so, describe.
- 
- 48

## TO BE COMPLETED BY APPLICANT

EVALUATIONS FOR  
AGENCY USE ONLY

- 1 No portion of the Hanford Site, including  
2 the site of the 4843 AMSF, has been used  
3 for agricultural purposes since 1943.  
4
- 5 **c. Describe any structures on the site.**  
6  
7 The 4843 AMSF is a single-floor structure,  
8 on a concrete slab, assembled with an all  
9 steel structural frame, roof, and sides,  
10 Occupying an area of approximately  
11 150 square meters (1,613 square feet).  
12 The interior of the building is open with  
13 no offices or rest rooms inside. Concrete  
14 block shielding exists along the north  
15 wall. Access to the building is provided  
16 by two large roll-up doors in the east and  
17 west ends and personnel doors in the  
18 southeast and northwest corners of the  
19 building.  
20
- 21 **d. Will any structures be demolished? If so,  
22 what?**  
23  
24 No. This facility will be used as a  
25 storage unit for alkali metal product.  
26
- 27 **e. What is the current zoning classification  
28 of the site?**  
29  
30 The Hanford Site is zoned by Benton County  
31 as an unclassified use district.  
32
- 33 **f. What is the current comprehensive plan  
34 designation of the site?**  
35  
36 The 1985 Benton County Comprehensive Land  
37 Use Plan designates the Hanford Site as the  
38 "Hanford Reservation." Under this  
39 designation, land on the Hanford Site can  
40 be used for "activities nuclear in nature."  
41 Nonnuclear activities are authorized "if  
42 and when DOE approval for such activities  
43 is obtained."  
44
- 45 **g. If applicable, what is the current  
46 shoreline master program designation of the  
47 site?**  
48  
49 Does not apply.

## TO BE COMPLETED BY APPLICANT

EVALUATIONS FOR  
AGENCY USE ONLY

- 1 h. Has any part of the site been classified as  
2 an "environmentally sensitive" area?  
3 If so, specify.

4  
5 No.

- 6  
7 i. Approximately how many people would reside  
8 or work in the completed project?  
9

10 No people will reside in the 4843 AMSF.  
11 A limited number of employees will be  
12 assigned to work in the 4843 AMSF during  
13 closure activities.  
14

- 15 j. Approximately how many people would the  
16 completed project displace?  
17

18 None.  
19

- 20 k. Proposed measures to avoid or reduce  
21 displacement impacts, if any:  
22

23 Does not apply.  
24

- 25 l. Proposed measures to ensure the proposal is  
26 compatible with existing and projected land  
27 uses and plans, if any:  
28

29 Does not apply. (Refer to Checklist  
30 Question B.8.f.)  
31

32 9. Housing  
33

- 34 a. Approximately how many units would be  
35 provided, if any? Indicate whether high-,  
36 middle-, or low-income housing.  
37

38 None.  
39

- 40 b. Approximately how many units, if any, would  
41 be eliminated? Indicate whether high-,  
42 middle-, or low-income housing.  
43

44 None.  
45

- 46 c. Proposed measures to reduce or control  
47 housing impacts, if any:  
48

49 Does not apply.

## TO BE COMPLETED BY APPLICANT

EVALUATIONS FOR  
AGENCY USE ONLY1 10. Aesthetics  
2

- 3 a. What is the tallest height of any proposed
- 
- 4 structure(s), not including antennas; what
- 
- 5 is the principal exterior building
- 
- 6 material(s) proposed?
- 
- 7

8 The existing 4843 AMSF has a total height  
9 of approximately 20 feet (6.1 meters).  
10 The building exterior walls and roof are  
11 steel. No new building construction is  
12 planned.  
13

- 14 b. What views in the immediate vicinity would
- 
- 15 be altered or obstructed?
- 
- 16

17 None.  
18

- 19 c. Proposed measures to reduce or control
- 
- 20 aesthetic impacts, if any:
- 
- 21

22 None.  
2324 11. Light and Glare  
25

- 26 a. What type of light or glare will the
- 
- 27 proposal produce? What time of day would
- 
- 28 it mainly occur?
- 
- 29

30 None.  
31

- 32 b. Could light or glare from the finished
- 
- 33 project be a safety hazard or interfere
- 
- 34 with views?
- 
- 35

36 No.  
37

- 38 c. What existing offsite sources of light or
- 
- 39 glare may affect your proposal?
- 
- 40

41 None.  
42

- 43 d. Proposed measures to reduce or control
- 
- 44 light and glare impacts, if any:
- 
- 45

46 Does not apply.  
47

## TO BE COMPLETED BY APPLICANT

EVALUATIONS FOR  
AGENCY USE ONLY1 12. Recreation  
2

- 3 a. What designated and informal recreational
- 
- 4 opportunities are in the immediate
- 
- 5 vicinity?
- 
- 6

7 None.  
8

- 9 b. Would the proposed project displace any
- 
- 10 existing recreational uses? If so,
- 
- 11 describe.
- 
- 12

13 Does not apply.  
14

- 15 c. Proposed measures to reduce or control
- 
- 16 impacts on recreation, including recreation
- 
- 17 opportunities to be provided by the project
- 
- 18 or applicant, if any?
- 
- 19

20 Does not apply.  
2122 13. Historic and Cultural Preservation  
23

- 24 a. Are there any places or objects listed on,
- 
- 25 or proposed for, national, state, or local
- 
- 26 preservation registers known to be on or
- 
- 27 next to the site? If so, generally
- 
- 28 describe.
- 
- 29

30 No places or objects listed on, or proposed  
31 for, national, state, or local preservation  
32 registers are known to be on or next to the  
33 4843 AMSF. Additional information on the  
34 Hanford Site environment can be found in  
35 the environmental documents referred to in  
36 the answer to Checklist Question A.8.  
37

- 38 b. Generally describe any landmarks or
- 
- 39 evidence of historic, archaeological,
- 
- 40 scientific, or cultural importance known to
- 
- 41 be on or next to the site.
- 
- 42

43 There are no known archaeological,  
44 historical, or native American religious  
45 sites at or next to the 4843 AMSF.  
46 Additional information on the Hanford Site  
47 environment can be found in the  
48 environmental documents referred to in the  
49 answer to Checklist Question A.8.

## TO BE COMPLETED BY APPLICANT

EVALUATIONS FOR  
AGENCY USE ONLY

- 1 c. Proposed measures to reduce or control  
2 impacts, if any:  
3

4 No impacts are anticipated. Where  
5 appropriate, a cultural resource review  
6 will provide the vehicle for necessary  
7 approvals required under the *National*  
8 *Historic Preservation Act*.  
9

## 10 14. Transportation

- 11  
12 a. Identify public streets and highways  
13 serving the site, and describe proposed  
14 access to the existing street system. Show  
15 on site plans, if any.  
16

17 Does not apply.  
18

- 19 b. Is site currently served by public transit?  
20 If not, what is the approximate distance to  
21 the nearest transit stop?  
22

23 The site is not publicly accessible, and,  
24 therefore, is not served by public  
25 transportation.  
26

- 27 c. How many parking spaces would the completed  
28 project have? How many would the project  
29 eliminate?  
30

31 This project does not affect parking  
32 spaces.  
33

- 34 d. Will the proposal require any new roads or  
35 streets, or improvements to existing roads  
36 or streets, not including driveways? If  
37 so, generally describe (indicate whether  
38 public or private).  
39

40 No.  
41

- 42 e. Will the project use (or occur in the  
43 immediate vicinity of) water, rail, or air  
44 transportation? If so, generally describe.  
45

46 No.  
47

- 48 f. How many vehicular trips per day would be  
49 generated by the completed project? If  
50 known, indicate when peak volumes would  
51 occur.

## TO BE COMPLETED BY APPLICANT

EVALUATIONS FOR  
AGENCY USE ONLY

1 When the building is used for product  
2 storage, approximately one trip each week  
3 will be made to the building.  
4

- 5 g. Proposed measures to reduce or control  
6 transportation impacts, if any:  
7

8 Impact will be minimized by taking  
9 multipurpose trips with several stops.  
10

11 15. Public Services  
12

- 13 a. Would the project result in an increased  
14 need for public services (for example:  
15 fire protection, police protection, health  
16 care, schools, other)? If so, generally  
17 describe.  
18

19 No.  
20

- 21 b. Proposed measures to reduce or control  
22 direct impacts on public services, if any:  
23

24 Does not apply.  
25

26 16. Utilities  
27

- 28 a. List utilities currently available at the  
29 site (electricity, natural gas, water,  
30 refuse service, telephone, sanitary sewer,  
31 septic system, other):  
32

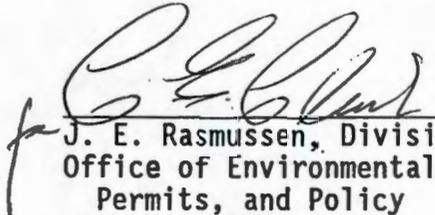
33 Electricity is the only utility currently  
34 available at the 4843 AMSF. Portable  
35 radios are carried by personnel accessing  
36 the 4843 AMSF, and a telephone is located  
37 approximately 100 feet (30.5 meters) west  
38 of the 4843 AMSF.  
39

- 40 b. Describe the utilities that are proposed  
41 for the project, the utility providing the  
42 service, and the general construction  
43 activities on the site or in the immediate  
44 vicinity which might be needed.  
45

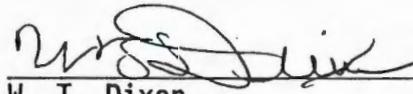
46 No new utilities or general construction  
47 activities are proposed.

1 SIGNATURES

2  
3 The above answers are true and complete to the best of my  
4 knowledge. I understand that the lead agency is relying on them to  
5 make its decision.  
6  
7

8  
9  
10   
11 J. E. Rasmussen, Division Director  
12 Office of Environmental Assurance,  
13 Permits, and Policy  
14 U.S. Department of Energy  
15 Richland Operations Office  
16  
17

10/20/95  
Date

18  
19   
20 W. T. Dixon  
21 Environmental Services  
22 Westinghouse Hanford Company  
23  
24

10/16/95  
Date

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The following comments have been closed and consolidated as agreed during the Unit Manager Meeting of September 8, 1993:

| <u>OPEN COMMENT</u> | <u>COMMENTS CLOSED AND CONSOLIDATED WITH THE OPEN COMMENT</u> |
|---------------------|---|
| 2                   | 54, 56, 57, and 58  |
| 3                   | 6, 21, 37, 38, 41, and 43                                     |
| 4                   | 11 and 45   |
| 5                   | 55  |
| 7                   | 8   |
| 10                  | 29  |
| 15                  | 23, 24, and 25  |
| 27                  | 78 and 79   |
| 31                  | 42  |
| 52                  | 13, 14, 17, 20, 30, 46, 66, 68, and 74                        |
| 59                  | 76  |

The following comments have been closed and consolidated as agreed during the Issue Resolution Meeting of March 24, 1994:

| <u>OPEN COMMENT</u> | <u>COMMENTS CLOSED AND CONSOLIDATED WITH THE OPEN COMMENT</u> |
|---------------------|---|
| 28                  | 86  |
| 39                  | 63 and 67   |
| 81                  | 84  |

Note: A Data Quality Objective (DQO) session was held May 24, 1995, due to the outcome of this DQO session and agreements made by Ecology, Department of Energy and Westinghouse Hanford Company many of these comments are no longer applicable. One such agreement reached at the DQO was that no sampling for closure determination would be performed, only sampling for waste disposal. Therefore any NODs relating to analytical methods, sampling locations, or sampling media are no longer applicable. Also, as a result of this DQO session, all comments have been adequately addressed and are now considered closed.

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| NO. | COMMENTS/RESPONSE   | CONCURRENCE                     |
|-----|---|---------------------------------|
| 1.  | <p>ECOLOGY COMMENT #1: <u>General</u>. The level of detail in this closure plan is inadequate. The closure plan must contain enough detail to allow the evaluation of whether:</p> <ol style="list-style-type: none"><li data-bbox="378 540 1476 565">1. The activities described in the plan satisfy the regulations, or</li><li data-bbox="378 573 1625 630">2. The conditions assumed in the plan adequately reflect the true conditions of the facility.</li></ol> <p>RL/WHC RESPONSE #1: Comment is too general to address. The level of detail in this closure plan is similar to the level provided in other closure plans which are nearing final approval by Ecology.</p> <p>ECOLOGY COMMENT #2: The detail of this closure plan must be increased to allow sufficient assessment of the closure process. Should the deficiencies be addressed sufficiently, no further response is necessary.</p> <p>RL/WHC RESPONSE #2: More historical information will be added to the closure plan such as: an eyewitness account of the spills and their cleanup, as well as the outcome of the May 15, 1995 radiation survey.</p> | Closed per<br>DQO of<br>5/24/95 |
| 2.  | <p>ECOLOGY COMMENT #1: <u>General</u>. According to section 4.0, Waste Characteristics, most of the waste is mixed (containing both hazardous and radioactive components). But the plan makes few references to safety protocol or cleanup procedures for the mixed waste. Control of health and safety hazards associated with the radioactive component of the waste are inadequately addressed. It is not acceptable to omit the management of the radioactive constituents from the closure plan.</p> <p>Revise text accordingly to incorporate measures that deal with the radioactive component of the mixed waste.</p>   | Closed per<br>UMM of<br>4/14/94 |



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COMMENT CONSOLIDATION: As agreed at the Unit Managers' Meeting of September 8, 1993, the following comments have been closed and consolidated with Comment No. 2: No. 54 (General), No. 56 (4.0), No. 57 (7.3.3), and No. 58 (7.3.2).

RL/WHC RESPONSE #2: The closure plan will be modified to increase the coverage of radioactive waste and the radioactive portion of mixed waste relative to the *Hanford Federal Facility Agreement and Consent Order*, Section 6.3. However, this information is being provided on an 'information-only' basis to the State of Washington Department of Ecology (Ecology). Please note that neither the *Hanford Federal Facility Agreement and Consent Order* nor the *Atomic Energy Act of 1954*, as amended, grants regulatory authority for radioactive materials and/or waste or for the radioactive portion of mixed waste to Ecology. A detailed discussion of this issue is contained in *Hanford Site Comments on the Draft Permit for the Treatment, Storage, and Disposal of Dangerous Waste for the Hanford Facility*, submitted March 16, 1993.

ECOLOGY COMMENT #3: Concur. Should the deficiencies be addressed sufficiently as agreed upon in the response and in the November 10, 1993, and December 14, 1993, Unit Manager meetings, this comment is considered closed.

CLARIFICATION PER UMM OF APRIL 14, 1994: Ecology is concurring to the general RL/WHC approach to dealing with radionuclides. Ecology and RL/WHC have agreed to leave the issue of authority for regulating radionuclides as unresolved. For the purposes of this closure plan, Ecology and RL/WHC agree that all other comments addressing radiological issues have been addressed to each party's satisfaction. Therefore, Ecology and RL/WHC agree that this comment can be closed.



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oil; see response to Comment No. 4.) The metallic sodium and lithium wastes (both solids) react with moisture in the air to form solid carbonates/solid hydroxides. The equilibrium between the solid carbonates and solid hydroxides depend upon the moisture content in the air. Free liquids are not required to either generate the carbonates/hydroxides, nor are they needed for the carbonate/hydroxide equilibrium reaction.

Only two spills have occurred during waste storage in the 4843 AMSF. Both spills consisted of solid radioactive mixed waste and involved small quantities of material. Each spill was immediately cleaned upon detection, as documented in the Event Fact Sheets in Appendix C. Both spills consisted of solid material from either weld seams or flanges. Neither spill entered the soil.

Because of the use of sealed containers for waste storage, absence of free liquids, and solid nature of the waste, soil contamination is considered to be extremely unlikely. Since there is not a reasonable pathway for contamination to have entered the soil, soil sampling is not considered appropriate for this unit.

ECOLOGY COMMENT #2: Soil sampling will be required. There are several issues which justify this requirement, which are:

1. Waste was stored outside the facility,
2. The location of waste stored outside is unknown,
3. Because the location can not be verified, it is doubtful that inspections were conducted on these drums, and
4. The spill, inspection, and inventory documentation is limited.







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|------------|--------------------------|--------------------|
|------------|--------------------------|--------------------|

closure decontamination verification, applicable petroleum products will be required to be incorporated into sampling parameter criteria.

**COMMENT CONSOLIDATION:** As agreed at the Unit Managers' Meeting of September 8, 1993, the following comments have been closed and consolidated with Comment No. 4: No. 11 (4-1/10) and No. 45 (Appendix C).

**RL/WHC RESPONSE #2:** The non-regulated oil does not need to be incorporated into the clean closure because it is not a dangerous waste, nor does it contain dangerous waste constituents. The non-regulated oil does not fall under WAC 173-303-070(2)(a) as it is not a solid waste generated by the operation of the 4843 AMSF. The non-regulated oil was packaged concurrently with the alkali metal waste during FFTF operations.

**ECOLOGY COMMENT #3:** The oil may not be regulated in its pure form (as an unused commercial chemical product), but once added to the dangerous waste, it is considered dangerous waste (WAC 173-303-070(2)(a)). Therefore, during clean closure decontamination verification, for purposes of biased sample location selection, the reviewer considers the oil to be part of the waste. The reviewer proposes that the utilization of oil constituents for decontamination verification purposes be deferred to the data quality objectives process (DQO) during which it is hoped that an agreement may be reached on closure objectives. In addition, the reviewer requests that the descriptive information regarding the oil as it is related to the waste and the management of the waste provided in RL/WHC's Response #1 be included in the revised closure plan.

**RL/WHC RESPONSE #3:** As discussed at the issue resolution meeting of March 24, 1994, Ecology is using the presence of oil in the waste as justification for biased sampling of the oil stains on the floor of the 4843 AMSF. RL/WHC does not object to this basis or to conducting biased samples of the oil stains on the floor of the 4843 AMSF.







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|-----|---|--|
| 7.  | <p>ECOLOGY COMMENT #2: Concur with the rationale that waste was probably not dispersed from exhaust fans, but soil sampling will be required within the ten foot boundary, addressed in previous comment/response.</p> <p>RL/WHC RESPONSE #2: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 3.</p> <p>ECOLOGY COMMENT #1: <u>3-1</u>. It is not clear if the spent piping and equipment containing waste was internally purged with inert gas before being sealed.</p> <p>Elaborate on the management of the spent equipment. Specify if the equipment was purged before being sealed, if the equipment was containerized after being sealed, and if not containerized, was secondary containment utilized.</p> <p>RL/WHC RESPONSE #1: All spent piping and equipment is internally purged before being sealed inside the containers. Most spent piping and equipment are sealed inside of various DOT containers (identified in Table 3-1) with an inert gas atmosphere. In four cases involving radioactive mixed waste (item numbers 81, 82, 95, and 96), the sodium waste was sealed in the original equipment that had been purged with an inert gas atmosphere. For these four items, the sealed equipment is considered to be the container.</p> <p>The requested information on past operations is included in Section 3.0. The description of procedures used for past operation of the 4843 AMSF will not be included and are beyond the scope of this closure plan.</p> <p>ECOLOGY COMMENT #2: The last paragraph of this response states, "past operation of the unit will not be included and are beyond the scope of the closure plan." This is an inappropriate response to the NOD. If past operations of this facility impact its closure, it is appropriate that such operations be evaluated for the purpose of decontamination and/or removal.</p> | Closed per<br>Ecology NOD<br>Response<br>Table of<br>2/28/94 |



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|-----|--|---|
|     | <p>RL/WHC RESPONSE #2: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 7.</p>   |   |
| 9.  | <p>ECOLOGY COMMENT #1: <u>3-2/10-16</u>. Section 3.2 discusses container management practices. Four parameters are said to be evaluated. The standard of evaluation is not provided.</p> <p>Elaborate on the standards used (i.e. references used).</p>  | <p>Closed per<br/>Issue<br/>Resolution<br/>Meeting of<br/>3/24/94</p> |
|     | <p>RL/WHC RESPONSE #1: "Container condition" is a visual inspection of the container. It is visually inspected for change in shape, corrosion products, discoloration, or any other visual indications that the container has been damaged or breached.</p>  |   |
|     | <p>The "container seal" is a visual check that the container seal is present and is intact (e.g., a gasket for a drum or that all openings in the equipment have been welded shut).</p>  |   |
|     | <p>"Proper marking and labeling" would be determined by the requirements of Title 49, Code of Federal Regulations "Transportation" in effect at the time the waste was received at the 4843 AMSF.</p>  |   |
|     | <p>"Valid radiological release" is applied to the container when it is removed from the radiation zone the waste was generated in. A radiological release sticker must be present on the waste container and must be properly completed for the waste container to be accepted at the 4843 AMSF. The information on a radiological release includes the name of the Health Physics Technician, date, survey number, and count.</p> |   |
|     | <p>The information discussed above will be incorporated into the closure plan.</p>   |   |

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The requested information on past operations is included in Section 3.0. The description of procedures used for past operation of the 4843 AMSF will not be included.

ECOLOGY COMMENT #2: Concur with container inspection procedures. Also, within the text of paragraph 4 of the ninth response, numerically define an acceptable count for releasing containerized radiological wastes.

Last paragraph, see number 7.

RL/WHC RESPONSE #2: The purpose of the "valid radiological release" is to identify that there are no radiological concerns and, if there are, to identify the actual dose rate from the container (or other object). The dose rate is then the basis of how the container or object is dealt with. Also entering into this is the type of radionuclides present.

For the waste containers in 4843 AMSF, the maximum dose rate that would be acceptable is less than 200 millirem/hour at any point on the surface for a Contact Handled (i.e., physical contact by trained, authorized personnel is allowed) waste container of 55-gal or less. Larger containers could, but not necessarily would, have a localized area of up to 1,000 millirem/hour on the bottom or on one side. These represent the maximum limits defined in Section 4.6.1 of the *Hanford Site Solid Waste Acceptance Criteria* (WHC-EP-0063-3).

The containers in 4843 AMSF have maximum surface dose rates of less than about 100 millirem/hour. Generally, most containers have lower dose rates.

ECOLOGY COMMENT #3: Concur with descriptions of container inspection procedures and numerical definition of releasable containers to be included within the text of the closure plan. This portion of the comment is considered closed.

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The requested information on past operations is included in Section 3.0. The description of procedures used for past operation of the 4843 AMSF will not be included.

ECOLOGY COMMENT #2: The response does not address the NOD at hand. Photos of past waste/product storage configuration shown in Appendices E-5 and E-6 contradict the response provided. Photo (APP E-5) shows the product material stacked around the waste storage area. In the past product drums were very similar to waste drums, as depicted in Appendix E-5. The product is shown to be stored in drums which are not inside wooden boxes, which are the same as the waste drums, except they do not have hazardous waste stickers. The only apparent distinction between the drums is the hazardous waste sticker on the waste drums. Because it is not uncommon for drums to be mislabeled, it is possible for waste to be incorrectly managed.

Although this particular NOD does not request information on past operations, it should be noted that if past operations impact closure of the unit, it is appropriate to address such operations.

COMMENT CONSOLIDATION: As agreed at the Unit Managers' Meeting of September 8, 1993, the following comment has been closed and consolidated with Comment No. 10: No. 29 (7-3/46).

RL/WHC RESPONSE #2: There have been two basic storage configurations at the 4843 AMSF. Prior to November 9, 1987, drum racks for storage of product (non-waste) were located on the north and east walls. The radioactive mixed waste containers were stored in the center of the building. Concrete block walls (dry stacked without mortar and about 4 feet high) were located on the east, north, and west sides of the radioactive mixed waste storage area for radiation protection purposes. The dangerous waste was stored along the south wall. Proper management was assured by weekly inspections and by segregation of waste.

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|-----|--|--|
|     | <p>The large quantity of product material (lithium, sodium, sodium-potassium) shown in Figure E-5 was removed before November 9, 1987. By November 9, 1987, the product racks were removed and the storage configuration modified. Dangerous waste continued to be stored along the south wall, the east wall south of the rollup door was used for very limited amounts of product storage, radioactive mixed waste was stored between a line running approximately from the north edge of the rollup doors to the north wall.</p> <p>Due to the presence of radioactive material, Health Physics Technicians would have been present to perform radiological surveys as necessary during the modification to the storage configuration in the 4843 AMSF.</p> <p>The closure plan will be modified to include the information on the past storage configuration.</p> <p>ECOLOGY COMMENT #3: Concur with the inclusion of the additional description and explanation in the text of the closure plan. This comment is considered closed.</p> |  |
| 11. | <p>ECOLOGY COMMENT #1: <u>4-1/10</u>. This sentence refers to Appendix C. See comments on Appendix C.</p> <p>RL/WHC RESPONSE #1: See response to Comment No. 45.</p> <p>ECOLOGY COMMENT #2: See number 4.</p> <p>RL/WHC RESPONSE #2: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 4.</p>   | Closed per<br>UMM of<br>9/8/93                             |
| 12. | <p>ECOLOGY COMMENT #1: <u>4-1/28</u>. Segregation of waste is based on the radioactivity of the waste.</p> <p>Provide a detailed discussion of procedures taken to assure and maintain segregation of mixed and dangerous waste.</p>   | Closed per<br>Issue<br>Resolution<br>Meeting of<br>3/24/94 |

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RL/WHC RESPONSE #1: The waste is segregated upon arrival at the 4843 AMSF. Segregation is based upon the labeling of the waste container with a radioactive material label upon generation. The presence of these labels was verified by the weekly inspections. Also, the monthly radiation surveys checked all containers. Detecting radiation from a non-radioactive waste container would have generated an event fact sheet. No such events occurred at the 4843 AMSF.

The above information will be added to the closure plan.

The requested information on past operations is included in Section 3.0. The description of procedures used for past operation of the 4843 AMSF will not be included.

ECOLOGY COMMENT #2: Concur with the addition of the information provided in the response to the closure plan. Due to the monthly radiation survey schedule, there is a question whether the waste stored less than a month could be received into and shipped out of the unit without a survey having been conducted. Please clarify if wastes were surveyed (radiological) coming into and out of the facility.

Last paragraph of the response, see number 7.

RL/WHC RESPONSE #2: Standard practice at the Hanford Site would require Health Physics Technician (HPT) coverage for radiological surveys during any movement of material into or out of the 4843 AMSF. The HPT coverage is required because the 4843 AMSF is a radiological controlled area (RCA) containing a radiation zone. The requirement for HPT coverage (i.e., radiological survey) would apply to both radiological and non-radiological material entering or leaving the 4843 AMSF.

ECOLOGY COMMENT #3: Regarding RL/WHC Response #1, concur with the addition of the information provided in the response to the closure plan.

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|     | <p>Regarding RL/WHC Response #2, concur with the additional explanation of the Health Physics Technician (HPT) coverage for radiological surveys during any movement of material into or out of the 4843 AMSF unit. The reviewer requests that the additional information provided by RL/WHC Response #2 also be included in the closure plan.</p> <p>Regarding the second portion of RL/WHC's Response #1, the additional information provided by responses to comments number 3, 10, 12, 23, 51, 53, 73, and 81 satisfies the request of information on past operations. This portion of the comment is considered closed.</p> <p>RL/WHC RESPONSE #3: Per the discussion at the issue resolution meeting on March 24, 1994, the text of the closure plan will be revised to address the following: The radiation surveys conducted as part of the container acceptance/transfer process will be used as evidence that all containers were intact and undamaged at time of arrival at the 4843 AMSF. Also, the monthly or quarterly radiation surveys will be cite a supporting evidence that there were no undocumented or uncontrolled releases while the radioactive waste was stored at the 4843 AMSF.</p> <p>As agreed during the issue resolution meeting on March 24, 1993, RL/WHC and Ecology agree to close this comment.</p> |                                |
| 13. | <p>ECOLOGY COMMENT #1: <u>4-2/1</u>. The text states that records of laboratory analysis of waste samples are maintained at the 340 Facility and Tanker.</p> <p>Was analysis conducted on spilled material to determine the composition of compounds formed? If so, provide analytical records. If not, provide a detailed discussion of how the conclusion was reached. If it cannot be substantiated that carbonates are the only product of this reaction, sampling for both hydroxides and carbonates will be required.</p>   | Closed per<br>UMM of<br>9/8/93 |



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| 15. | <p>ECOLOGY COMMENT #1: <u>6-1/18</u>. Ambiguous terms such as, "potentially dangerous" and "action levels" are not appropriately defined for the function of this document. The removal or decontamination of waste residues, equipment, soils, or other materials contaminated with dangerous waste or dangerous waste residue must not exceed background environmental levels for listed or characteristic wastes or designation limits for state only waste (WAC 173-303-610(2)(b).</p> <p>Modify text to include background as the clean closure performance standard. Replace ambiguous terms, or define them in reference to the regulation cited above. Citations of health-based standards must be changed to background. Correlate the term "action level" with the clean closure requirements.</p> <p>RL/WHC RESPONSE #1: The text will be changed to remove the term <u>potentially</u> and insert <u>waste</u> to read "... dangerous waste constituents..." to remain consistent with the rest of the document. The remainder of the text will remain unchanged.</p> <p>In a letter from Ecology (Roger Stanley) dated 2/4/92, addressed to all interested parties, three Cleanup/Remediation options were presented as acceptable options for Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response Compensation and Liability Act activities on the Hanford Site. In this letter, options in addition to cleanup to background levels were addressed. In light of this, the use of health based action levels as a standard for closure of RCRA units has been proposed on the Hanford Site and is being looked at in earnest by Ecology. Therefore, the use of the term "action levels" in closure plans has become common syntax and has up to this point been accepted by Ecology.</p> <p>The definition of "action level" for this closure plan is given on page 6-1, lines 7-8 and also on page 6-2, line 33. The text will be modified to include the definition.</p> <p>ECOLOGY COMMENT #2: Concur with first paragraph of the response.</p> | Closed per<br>DQO of<br>5/24/95 |

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The second paragraph of the 2/23/93 response states that the definition of "action level" for this closure plan is provided on page 6-1, lines 7-8. The referenced statement reads, "these standards will be achieved by removing dangerous waste from the 4843 AMSF and decontaminating to levels protective of human health and the environment..." This statement is consistent with the closure performance standards of WAC-173-303-040. However, neither WAC 173-303-040, nor proposed WAC 173-303-610(2) (to incorporate provisions of WAC 173-340-200) provide a definition for "action level."

On page 6-2, line 33, "action level" is defined as a concentration that prompts "an action." This statement could be interpreted as being consistent with the closure performance standard statement on page 6-1, lines 7-9. Although on page 6-2, lines 34-35, the action level for the metal surfaces is defined as "the limit of quantitation of the wipe sample method." Without identifying which particular analytes or analytical methods are to be utilized, the limit of quantitation cannot be established. Similarly, on page 6-2, lines 35-44, the action level for the concrete floor is proposed to be based on WAC 173-303-084, "Dangerous Waste Mixtures." Again, without including all applicable parameters and not identifying the corresponding analytical methods, appropriate "action levels" cannot be established. To avoid any further confusion on this subject, delete all "action level" references and phrases. It is recommended that after the waste characteristics of Chapter 4.0 are properly identified, the sampling and verification parameters and the analytical methods be re-evaluated and revised as appropriate. In addition, for simplicity, it is requested that a table be inserted into the plan which identifies parameters/analytes, detection levels, practical quantification levels, and corresponding analytical methods that the various medias will be sampled for. Another table to address analyte specific "cleanup levels" (as defined by WAC 173-340-200) for the various media should be considered for inclusion, if applicable.

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**COMMENT CONSOLIDATION:** As agreed at the Unit Managers' Meeting of September 8, 1993, the following comments have been closed and consolidated with Comment No. 15: No. 23 (6-1/13), No. 24 (6-2/11), and No. 25 (6-2/33-35).

**RL/WHC RESPONSE #2:** The term 'action levels' will continue to be used in this and all other closure plans. The definition of 'action level' is the concentration of contaminate that requires cleanup activity when that concentration is greater than some predetermined level (e.g., site-wide background, health-based level, or the limit of quantitation.) This definition will be included in the closure plan where appropriate.

A table will be added to Section 7 that identifies constituents, parameters, and analytical method for specific media (e.g., concrete). Also, a table will be added that identifies the constituents of concerns and the respective action level.

**ECOLOGY COMMENT #3:** Although the term "action level" is now proposed (by NOD Response Table dated October 14, 1993) to be defined as "the concentration of contaminate that requires cleanup activity when that concentration is greater than some predetermined level," the term is not defined by WAC 173-303. Furthermore, it is the reviewer's understanding that the term "action levels" only occurs once within the rule (WAC 173-340-400(4)(c)(xi)) with regard to cleanup actions. It is also the reviewer's understanding that for purposes of conducting a RCRA closure through WAC 173-303-610, MTCA "cleanup standards" (of Part VII of the MTCA Rule) are to be utilized rather than the MTCA "cleanup process." As the closure plan addresses a RCRA unit, and to avoid further confusion on this subject, delete the "action level" phrase and definition. It should be noted that a definition for "cleanup level" is provided by WAC 173-340-200 which may be utilized by reference of proposed WAC 173-303-610 (promulgated in January 1994 to amend WAC 173-303-610 to include WAC 173-340-200).

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|     | <p>RL/WHC RESPONSE #3: Since the issuance of this NOD, applicable environmental regulations have changed so that "action levels" in an appropriate term to be used in this situation and will be used as defined in the closure plan.</p> <p>(Note: As of May 24, 1995, due to the outcome of the DQO no sampling for closure determination will be performed; therefore it is not necessary to create a table containing information on sampling constituents, parameters, or analytical methods.)</p> |  |
| 16. | <p>ECOLOGY COMMENT #1: <u>6-1/22</u>. The text states that no post closure activities are expected. No discussion is provided to support this decision.</p> <p>Elaborate on why post closure will not be necessary, and explain standards used in the determination.</p> <p>RL/WHC RESPONSE #1: The text will be modified to state that the 4843 AMSF is expected to be clean closed. Therefore, no post closure activities are expected.</p> <p>ECOLOGY COMMENT #2: Concur.</p>                        | <p>Closed by Ecology NOD Response Table of 7/20/93</p> |
| 17. | <p>ECOLOGY COMMENT #1: <u>6-1/26-30</u>. Again, explain why carbonates are considered the only possible reaction products.</p> <p>See comment number 14.</p> <p>RL/WHC RESPONSE #1: See response to Comment No. 13.</p> <p>ECOLOGY COMMENT #2: Concur.</p> <p>In response to second paragraph of response, see comment number 13.</p>   | <p>Closed per UMM of 9/8/93</p>                        |

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| <p>RL/WHC RESPONSE #2: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 52.</p> |  |  |
| 18.   | <p>ECOLOGY COMMENT #1: <u>6-1(sic)/34.</u> [6-2/34.] The sentence reads, "[t]he action level of the metal surfaces (walls) is the limit of quantitation of the wipe sample method".</p> <p>First, provide reference or detailed description of sample method used. Second, define the "quantitation limit" and state what it is for specific analytes. Action levels must be adequately defined.</p> <p>RL/WHC RESPONSE #1: The reference for the sample method is <i>A Compendium of Superfund Field Operation Methods</i> (EPA/540/P-87/001). A description of the method is contained in Section 7.3.2. Since wipe sampling only provides a qualitative estimate of contamination, the text is in error and will be changed.</p> <p>ECOLOGY COMMENT #2: Concur.</p> <p>(Note: As of May 24, 1995, due to the outcome of the DQO process and changes in closure strategy this section of the closure plan has been deleted.)</p> | <p>Closed by<br/>Ecology NOD<br/>Response<br/>Table of<br/>7/20/93</p> |
| 19.   | <p>ECOLOGY COMMENT #1: <u>6-1/35-36.</u> The closure plan does not describe methods employed for removing contaminants from the unit.</p> <p>Provide a detailed description of procedures utilized to remove contaminants. Be explicit.</p> <p>RL/WHC RESPONSE #1: The intent of Section 6 is to provide the general outline for closure. More detailed information is not appropriate. Section 7.4 of the closure plan, "Decontamination and Disposal of Building and Concrete Pad," discusses the decontamination strategy for clean closure.</p>  | <p>Closed by<br/>Ecology NOD<br/>Response<br/>Table of<br/>7/20/93</p> |

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| 20. | <p>ECOLOGY COMMENT #2: Concur.</p> <p>ECOLOGY COMMENT #1: <u>6-1/37</u>. This sentence refers to Appendix D.<br/>See comment number 14.</p> <p>RL/WHC RESPONSE #1: See response to Comment No. 13.</p> <p>ECOLOGY COMMENT #2: Concur.</p> <p>In response to second paragraph of response, see comment number 13.</p> <p>RL/WHC RESPONSE #2: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 52.</p>  | Closed per<br>UMM of<br>9/8/93 |
| 21. | <p>ECOLOGY COMMENT #1: <u>6-1/40-46</u>. Because wastes were externally stored, sampling and analysis outside the unit will be required.<br/>Modify text accordingly.</p> <p>RL/WHC RESPONSE #1: See response to Comment No. 3.</p> <p>ECOLOGY COMMENT #2: See RL/WHC response to comment 5. The closure plan states that the boundary of the unit is ten feet from the exterior walls of the building. Therefore, soil sampling within this boundary is appropriate. Modify text accordingly.</p> <p>RL/WHC RESPONSE #2: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 3.</p> | Closed per<br>UMM of<br>9/8/93 |

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| 22. | <p>ECOLOGY COMMENT #1: <u>6-2/7-10</u>. The detail of this section is insufficient. Explain how and where the waste will be removed. Describe or reference sampling, analysis, and decontamination procedures.</p> <p>RL/WHC RESPONSE #1: The radioactive mixed waste will be moved to the Hanford Mixed Waste Complex for long-term storage. The radioactive mixed waste will remain at the Hanford Site in the 200 West area for the present time. The dangerous waste has been transferred offsite to a licensed hazardous waste facility for disposal.</p> <p>Relative to the details of decontamination, see response to Comment No. 19.</p> <p>The contents of Section 6.2 is considered to be adequate and will not be changed.</p> <p>ECOLOGY COMMENT #2: The information provided in this response is not contained in the closure plan. Modify text to incorporate information into appropriate sections of the plan. It should be noted that the comment pertains to wastes generated during closure activities and the response addressed wastes in storage.</p> <p>RL/WHC RESPONSE #2: The purpose of Section 6 of the closure plan is to outline the closure strategy and performance standards. The detailed information being requested in both Ecology comments is appropriate in either Section 7 or in the Decommissioning Work Plan. It is not consistent with the current closure plan format to include that level of detail in Section 6. As part of Revision 1 of the closure plan, Section 6 will be modified to bring it up to current standards of information, but it will not contain detailed methodology. That information is covered in Section 7 and in the Decommissioning Work Plan.</p> | Closed per<br>Issue<br>Resolution<br>Meeting<br>3/23/94 |



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|     | <p>Again, "action levels" are not adequately defined and therefore are not appropriate for the closure plan. See comment [No. 15] regarding 6-1/18.</p> <p>RL/WHC RESPONSE #1: No forklifts are dedicated for use at or stored in this unit. Due to the containerized nature of the waste that was stored in this unit, any forklifts or other equipment used in this unit would only become contaminated in the event of a release or spill of waste. Neither of the releases of waste occurring in the 4843 AMSF involved forklifts, other equipment, or load/unloading operation. Because no material handling equipment was considered to be part of the unit, such equipment is not addressed by the closure plan.</p> <p>See the response to Comment No. 15 for "action levels."</p> <p>ECOLOGY COMMENT #2: Concur with first paragraph of response.</p> <p>See number 15 to address second paragraph of response.</p> <p>RL/WHC RESPONSE #2: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 15.</p> |                                |
| 24. | <p>ECOLOGY COMMENT #1: <u>6-2/11</u>. Action levels are not adequately defined. See comment number 14.</p> <p>RL/WHC RESPONSE #1: See response to Comment No. 15.</p> <p>ECOLOGY COMMENT #2: See number 15.</p> <p>RL/WHC RESPONSE #2: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 15.</p>  | Closed per<br>UMM of<br>9/8/93 |

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| 25. | <p>ECOLOGY COMMENT #1: <u>6-2/33-35</u>. Action levels are not adequately defined. Compliance with regulatory requirements is not discussed, nor is the wipe sample method appropriately defined, referenced or adequately explained.</p> <p>See comment regarding 14.</p> <p>RL/WHC RESPONSE #1: For action levels, please see Comment Response No. 15. The wipe sample method is referenced in Section 7.3.2.</p> <p>ECOLOGY COMMENT #2: See number 15.</p> <p>RL/WHC RESPONSE #2: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 15.</p>  | Closed per<br>UMM of<br>9/8/93  |
| 26. | <p>ECOLOGY COMMENT #1: <u>6-2/35-39</u>. The intent of this sentence is unclear. Is it that the concrete floor is being considered a component of the mixture for designation purposes?</p> <p>The floor cannot be considered a component of the waste unless it is intended to remove the entire floor and dispose of it as dangerous waste. It appears the floor is not intended to be waste, therefore it can not be considered when designating the concentration of the waste. See WAC 173-303 for designation procedures. The mixture rule does not apply to the concrete floor. Refer to WAC 173-303-610 for decontamination guidance.</p> <p>Any sodium hydroxide or carbonate embedded in the floor needs to be sampled and compared with the background concentration in the clean concrete it is adhered to.</p> <p>RL/WHC RESPONSE #1: The floor is not being considered a component of the mixture for designation purposes. The text will be modified to clarify this point.</p> | Closed per<br>DQO of<br>5/24/95 |

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Sampling concrete to determine background levels has not been feasible due to the variability in the composition of concrete from the chemical constituents in the aggregate, additives, and cement. The Toxic Characteristic Leachate Procedure (TCLP) will be used for inorganic analysis. This method is most likely to dissolve only those constituents that could mobilize in a landfill environment without dissolving the concrete itself. The justification for using TCLP for inorganic analysis in concrete is attached to the NOD response table.

ECOLOGY COMMENT #2: Concur with first paragraph of response.

Addressing the second paragraph of the response, the discussion of concrete composition variability as presented in the attachment to the 2/23/93 response table is accepted as valid. The proposal to utilize the Toxic Characteristic Leachate Procedure (TCLP) solely as a measure of decontamination verification is inappropriate. The purpose of the TCLP as it occurs in WAC 173-303-090 is to determine if the waste is dangerous waste by the characteristic of toxicity after it has been determined, not to be designated as a dangerous waste under any of the dangerous waste lists identified by WAC 173-303-090(8)(b). It should be noted that contaminants can be detected several magnitudes above background and may not leach using the TCLP. For this reason, these concentrations, if left in the environment, may be deleterious to the environment or human health. Therefore, the proposal to utilize TCLP for decontamination verification in the second paragraph of the response table cannot be approved.

Addressing clean closure verification in regard to the concrete, several sampling approaches should be considered. The establishment of background for the concrete taking the variables as identified in the discussion of concrete composition variability, as presented in the attachment to the February 23, 1993 response table, into consideration is the approach as specified by WAC 173-303-610. If this approach is deemed not to be feasible, a combination of analytical methods whereby total metals analysis (using the hot acid leach method), TCLP analysis, and rat and fish bioassays are conducted and evaluated,

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should be considered. Another approach to be considered is that of utilizing cleanup levels established by proposed WAC 173-303-610 (scheduled to be promulgated in December 1993 to amend WAC 173-303-610 to include WAC 173-340-200) whereby those cleanup levels specified in proposed WAC 173-340-740 for soils may be applied to concrete. Revision 1 of the closure plan should identify exactly which standards are to be utilized.

RL/WHC RESPONSE #2: The current intention is to use the step-wise Hot Acid Leach-Total Metals Analysis/Toxic Characteristic Leaching Procedure/Rat and Fish Bioassay Methodology for the analysis of inorganics in concrete. This methodology was presented by Ecology at the Unit Managers' Meeting on February 10, 1993, for the *303-K Radioactive Mixed Waste Storage Facility Closure Plan*. The methodology was identified by Ecology as the state-wide standard methodology for inorganics in concrete.

The closure plan will be modified to incorporate the previously stated methodology where appropriate.

ECOLOGY COMMENT #3: In response to the proposal (NOD Response Table dated October 14, 1993), to utilize a step-wise Hot Acid Leach - Total Metals Analysis/Toxic Characteristic Leaching Procedure/Rat and Fish Bioassay Methodology for the analysis of inorganics in concrete, the reviewer has attempted to better understand the referenced methodology. In so doing, the reviewer reviewed the Unit Manager meeting minutes of the February 10, 1993, meeting regarding 303-K Radioactive Mixed Waste Storage Facility and the applicable portions of "303-K Storage Facility Closure Plan," (DOE/RL-90-04 Revision 2). As the October 14, 1993, response does not include sufficient detail to identify procedural steps and criteria by which to make a decontamination determination, the following questions/concerns were generated.

From the February 10, 1993 Unit Manager meeting minutes for the 303-K Radioactive Mixed Waste Storage Facility, it is indicated that the total metal

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analysis using hot acid leach will be the initial step. It is also stated that "[I]f any species exceed 20 times the TCLP detection limit, then TCLP is required." The reviewer does not understand the purpose of utilizing the TCLP detection limit rather than the TCLP regulatory limit. It is the reviewer's understanding that during the initial steps of the TCLP procedure, the solid phase of the sample material is extracted at a 20 to 1 ratio, therefore, as a screening approach (for designation purposes), if the total metals analysis does not yield values which exceed 20 times the TCLP regulatory limits, the material is unlikely to "fail" the TCLP test. Please clarify what criteria/values the total metals would be compared to (detection limits or regulatory limits). It should be noted that the constituents of concern (alkali metals, alkali carbonates, or alkali hydroxides) do not have TCLP regulatory limits. In addition, in the same meeting minutes, it is stated that "this procedure is used statewide for designation of concrete." It should be noted that the goal during closure is to confirm decontamination and that "designation of concrete" does not achieve the desired confirmation. Therefore, it is requested that an explanation of the utilization of the TCLP procedure, if applicable, be provided. In addition, if the TCLP procedure is to be utilized, an identification of which portions of the TCLP method will be utilized/followed.

As requested in Ecology's July 20, 1993 response table, several approaches should be considered when addressing clean closure verification in regard to the concrete. For purposes of resolving this deficiency, an identification of procedures is requested. It should be noted that Ecology's draft "Guidance for Clean Closure of Dangerous Waste Facilities" (April 1993), states "[T]he cleanup levels specified in WAC 173-340-740 for soils may be applied to concrete; however, the facility proponent may prefer to conduct individual risk assessments on concrete structures that will be left in place after closure." It is proposed that the identification of procedures be deferred to the DQO process during which it is hoped that an agreement may be reached on sampling logic and objectives. Should the deficiency be resolved during the DQO process, this comment is considered closed by deferral.







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visual inspection of the surfaces are considered ample to identify those points where contamination is the most likely to be present. The wastes stored in this unit are characteristic wastes. If they ever came into contact with any part of the unit, a trace of either the radioactivity (if the waste was mixed) or the reactive or corrosive nature of the waste would pinpoint its location (i.e., discoloration or corrosion of the surface). Therefore, the use of radiation surveys and visual inspection of the unit interior is judged adequate for determining sampling location. The use of visual inspections for selection of sample points was the primary method used for the closure of the 2727-S Facility, a similar unit.

Because of the nature of waste storage and handling, contamination of the walls is considered to be unlikely. For the type of waste stored in this unit, the wall sampling as described in the closure plan is adequate.

ECOLOGY COMMENT #2: It is appropriate to use bias sampling (visual inspection and radiation survey) to locate suspect contamination within a unit. But it is not adequate to limit sampling to these areas for clean closure verification. Even though contamination of the walls is unlikely, it is not impossible. Therefore, random sampling of the walls will be required. Also, during a July 9, 1993 site visit, the insulation covered wall located above the sheet metal was noted to be torn/ruptured in many places. As drums were stacked three drums high, it is appropriate to verify clean closure of the walls above the sheet metal. The closure plan addresses only the sheet metal and should also include a description of how decontamination verification samples above the sheet metal will be collected.

Addressing the second comment of the response, the request is inconsistent with what was allowed in the 2727-S Facility closure. It should be noted that at this time, the referenced unit is known to have very little in common with the 4843 AMSF storage unit. During closure activities, if it is found that 4843 AMSF presents similar challenges to those of 2727-S, the additional information

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will be evaluated accordingly. Otherwise, biased and random sampling will be utilized. It is unfortunate that all units are not able to be managed consistently. Due to the unique nuances of each unit, and the perspective of the unit manager, it is a fallacy to assume that blanket site wide approval has been provided because a procedure, interpretation, or guidance has been provided by one regulator at one unit. Furthermore, during a project manager's meeting, it was decided that what is done at one unit may not appropriately be implemented at another unit. In other words, the actions taken at one unit do not set a precedent for all other RCRA units.

RL/WHC RESPONSE #2: As discussed previously, there is no reasonable pathway for either alkali metal waste or its by-products to contaminate the walls. These are solid pyrophoric metals in sealed containers. It is not possible for the alkali metal to 'escape' from the containers without their visible corrosion by-products or metal fire occurring. For these reasons, wipe sampling of the metal wall surfaces only is adequate.

ECOLOGY COMMENT #3: It is appropriate to use bias sampling (visual inspection and radiation survey) to locate suspect contamination within a unit. But it is not adequate to limit sampling to these areas for clean closure verification. Even though contamination of the walls is unlikely, it is not impossible. Therefore, random sampling of the walls will be required. Also, during a July 9, 1993, site visit, the insulation covered wall located above the sheet metal was noted to be torn/ruptured in many places. As drums were stacked three drums high, it is appropriate to verify clean closure of the walls above the sheet metal. The closure plan addresses only the sheet metal and should also include a description of how decontamination verification samples above the sheet metal will be collected.

Regarding RL/WHC's Response #2, the reviewer proposes that the decontamination verification of the insulation covered wall located above the sheet metal be deferred to the DQO process during which it is hoped that an agreement may be

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|     | <p>reached on sampling logic objectives. Should the deficiency be resolved during the DQO process, this comment is considered closed by deferral.</p> <p><b>COMMENT CONSOLIDATION:</b> As agreed at the issue resolution meeting of March 24, 1994, the following comment has been closed and consolidated with Comment No. 28: No. 86 (<u>Additional section</u>).</p> <p><b>RL/WHC RESPONSE #3:</b> Due to a change in sampling strategy this NOD does not apply. As agreed to with Ecology through the DQO process there will be no sampling of the walls, insulation, or concrete.</p> |                                |
| 29. | <p><b>ECOLOGY COMMENT #1:</b> <u>7-3/46</u>. The text states that the unit is divided by a rope into two storage areas, but section 3.0 indicates that Na/K product was stored in the facility.</p> <p>Discuss the dual function of the unit. See comment number 10.</p> <p><b>RL/WHC RESPONSE #1:</b> See response to Comment No. 10.</p> <p><b>ECOLOGY COMMENT #2:</b> See comment number 10.</p> <p><b>RL/WHC RESPONSE #2:</b> As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 10.</p>                     | Closed per<br>UMM of<br>9/8/93 |
| 30. | <p><b>ECOLOGY COMMENT #1:</b> <u>7-4/1</u>. See comment number 14.</p> <p><b>RL/WHC RESPONSE #1:</b> See response to Comment No. 13.</p> <p><b>ECOLOGY COMMENT #2:</b> See comment number 13.</p> <p><b>RL/WHC RESPONSE #2:</b> As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 52.</p>   | Closed per<br>UMM of<br>9/8/93 |

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| 31. | <p>ECOLOGY COMMENT #1: <u>7-4/9</u>. Many distinct procedures are compiled into SW-846. Specific procedures used should be referenced by number, and any alteration of procedures require prior regulatory approval.</p> <p>Specifically describe "the protocol" used. It is suggested that a grid pattern of the unit, inside and out, be implemented for sampling utilizing both stratified random and biased sampling methods.</p> <p>RL/WHC RESPONSE #1: A reference to Appendix G will be added to identify the SW-846 protocols being used.</p> <p>The sampling for the floor of the building is considered to be adequate and is discussed in Figure 7-2 on page F7-2 and in Table 7-1 on page T7-1.</p> <p>For soil sampling, see the response to Comment No. 3.</p> <p>Clarification is requested on the definition of "stratified random" sampling.</p> <p>ECOLOGY COMMENT #2: Concur with the addition of a reference to appendix G to identify SW-846 protocols being used.</p> <p>Specify why the number of samples (seven) proposed for the floor sampling is considered adequate. Has the number been based on a statistical goal to achieve a particular confidence interval?</p> <p>Stratified sampling consists of taking samples at various depths/distances or geographical locations.</p> <p>COMMENT CONSOLIDATION: As agreed at the Unit Managers' Meeting of September 8, 1993, the following comment has been closed and consolidated with Comment No. 31: No. 42 (<u>F7-2</u>).</p> | <p>Closed per<br/>DQO of<br/>5/24/95</p> |

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| 32. | <p>RL/WHC RESPONSE #2: For sampling purposes, the floor surface is divided into 1 m<sup>2</sup> grids. For 4843 AMSF, there are 144 squares in a 12 by 12 pattern (see Figure F7-2, page F7-2). To obtain representative and statistically significant samples, 5 percent of the grids must be sampled. This results in sampling of 7 grids (144 x 0.05). The 5 percent area requirements is a standard number for sampling flat surfaces and is based on U.S. Environmental Protection Agency (EPA) guidelines. The text of the closure plan will be modified to identify that the 7 samples represent 5% of the surface area.</p> <p>ECOLOGY COMMENT #3: Concur with the addition of a reference to appendix G to identify SW-846 protocols being used.</p> <p>Specify why the number of samples (seven) proposed for the floor sampling is considered adequate. Has the number been based on a statistical goal to achieve a particular confidence interval?</p> <p>Regarding RL/WHC's Response #2, the particular reference for the U.S. Environmental Protection Agency (EPA) guidelines is requested to be identified. In addition, an identification of the statistical confidence level to be achieved by the proposed number of samples is requested.</p> <p>RL/WHC RESPONSE #3: No sampling for closure determinations will occur at 4843; therefore this NOD is no longer a concern.</p> <p>ECOLOGY COMMENT #1: <u>7-4/14-31</u>. See comment number 26.</p> <p>RL/WHC RESPONSE #1: See response to Comment No. 26.</p> <p>ECOLOGY COMMENT #2: Please indicate, in response, that text of page 7-4, lines 14-31, will be modified to delete references to WAC 173-303-084 for decontamination verification of the concrete.</p> | Closed per<br>Issue<br>Resolution<br>Meeting of<br>3/24/94 |

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RL/WHC RESPONSE #2: The text on page 7-4, lines 11 to 31 reading "Unlike the metal walls, the possibility...in accordance to WAC 173-303-084(5)(b)." will be deleted. A complete rewrite of the section will be substituted. A draft of the rewrite is provided as follows:

"Unlike the metal walls, the possibility exists that contaminants have penetrated and embedded in the concrete floor. Therefore, verification is necessary to ensure that any contaminants embedded in the floor are below the action levels presented in Table *to be determined (TBD)*."

To obtain statistically significant and representative samples, 5% of the surface area of the floor need to be sampled. This requires 7 of the grids shown in Figure 7-2 to be sampled. The 7 concrete floor samples will be taken from the locations identified in Figure 7-2. These locations are selected by the results of random number generation (Table 7-1). These samples will be taken by concrete chipping.

Authoritative concrete samples will be taken of the cracks in the concrete floor as shown in Figure TBD. These samples will be taken by concrete coring.

The concrete samples collected will be analyzed for the contaminants identified in Table TBD. These inorganic contaminants will be analyzed using the Hot Acid Digestion-Toxic Metals/Toxic Characteristic Leaching Procedure methodology, as shown in Table TBD."

ECOLOGY COMMENT #3: Concur with deletion of lines 11 to 31 on page 7-4.

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|     | <p>The reviewer requests that the concurrence with the proposed rewrite of this section be deferred to the DQO process, due to the concerns as identified in comment number 26. Prior to beginning the DQO process, it should be noted that the reviewer concurs with the proposed authoritative concrete sampling, an evaluation of applicable inorganic contaminants, and concrete chipping.</p> <p>Please see comment number 15 regarding the usage of the term "action levels."</p> <p>RL/WHC RESPONSE #3: As discussed in the issue resolution meeting of March 24, 1994, the text in RL/WHC Response #2 will not be used as is since it contains several unresolved issues. The unresolved issue will be addressed by other comments. (E.g., use of TCLP, see Comment No. 26; number of samples, see Comment No. 31; use of the term 'action levels,' see comment No. 15).</p> <p>The table that identifies the constituents of concerns and the appropriate analytical parameters will be included in the revised closure plan. The final content of both the table and the text will be based upon the results of the DQO process.</p> <p>As agreed during the issue resolution meeting on March 24, 1993, RL/WHC and Ecology agree to close this comment.</p> <p>(Note: As of May 24, 1995, due to the DQO process no closure determination sampling will be performed.)</p> |   |
| 33. | <p>ECOLOGY COMMENT #1: <u>7-4/50</u>. Laboratory procedures are cited in this sentence. Specify that the current version of referenced material will be used.</p> <p>RL/WHC RESPONSE #1: The Quality Assurance Project Plan (Appendix G) requires that the most current version of all Environmental Investigation and Instructions are to be used. The text will be modified so that the current version of the referenced material will be used.</p>  | Closed by<br>Ecology NOD<br>Response<br>Table of<br>7/20/93 |

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| ECOLOGY COMMENT #2: Concur. | (Note: As of May 24, 1995, due to the outcome of the DQO process and changes in closure strategy this section of the closure plan has been deleted.)   |  |
| 34.                         | <p>ECOLOGY COMMENT #1: <u>7-5/40-48</u>. This section is ambiguous.</p> <p>Elaborate on the actual procedures or simply reference the procedures and submit a copy of the QA/QC manual with the closure plan for review and approval.</p> <p>RL/WHC RESPONSE #1: The analytical laboratory quality control/quality assurance (QA/QC) procedures are beyond the scope of this closure plan and will not be provided. Regulatory review and oversight of the analytical procedures are covered in the Hanford Federal Facility Agreement and Consent Order (Article XXX). For information relative to this closure plan, see the quality assurance program plan (QAPP) in Appendix G.</p> <p>The selection of an analytical lab is not undertaken until shortly before sampling begins; in general, the lab can be expected to follow the QA/QC outline of SW-846 for RCRA analysis.</p> <p>ECOLOGY COMMENT #2: Concur with inclusion of provision to submit laboratory certification that SW-846 laboratory QA/QC procedures were utilized.</p> <p>RL/WHC RESPONSE #2: Such a provision is not required and will not be added. As stated, laboratory certifications are covered in the <i>Hanford Federal Facility Agreement and Consent Order</i> and are outside of the scope of the closure plan.</p> <p>ECOLOGY COMMENT #3: Concur. As the text identifies that the QA/QC "program will met the criteria of SW-846," and the mechanism exists to verify this through the Hanford Federal Facility Agreement and Consent Order (Article XXX), this comment is considered closed.</p> | Closed per Ecology NOD Response Table of 2/28/94 |

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|     | <b>(Note: As of May 24, 1995, due to the outcome of the DQO process no sampling for closure determination is required.)</b>  |   |
| 35. | <p>ECOLOGY COMMENT #1: <u>7-6/7</u>. It is unclear if an EII is being referenced.</p> <p>Clarify whether the exact EII method will be used (i.e. incorporate method by reference) or whether the method is only similar to an EII, in this case.</p> <p>RL/WHC RESPONSE #1: This sentence is clearly referencing the EII. Modification of the sentence is not considered necessary.</p> <p>ECOLOGY COMMENT #2: It is suggested that "in accordance with EII .." be inserted into the sentence.</p> <p>RL/WHC RESPONSE #2: The text will be modified.</p> | Close per<br>Issue<br>Resolution<br>Meeting of<br>3/24/94   |
| 36. | <p>ECOLOGY COMMENT #1: <u>7-6/27-31</u>. It is not clear who is responsible for reviewing and evaluating the reports.</p> <p>Specify to whom the reports will be submitted.</p> <p>RL/WHC RESPONSE #1: The text will be modified to identify that the Field Team Leader and the Hanford Technical Lead are responsible for this reporting.</p> <p>ECOLOGY COMMENT #2: Concur.</p>  | Closed by<br>Ecology NOD<br>Response<br>Table of<br>7/20/93 |
| 37. | <p>ECOLOGY COMMENT #1: <u>7-7/33-34</u>. It is premature to assume that sampling will be limited to the media specified. Because waste has been stored outside the unit, soil sampling will be required.</p> <p>Provide procedures for soil sampling and analysis.</p>   | Closed per<br>UMM of<br>9/8/93                              |

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| 38. | <p>RL/WHC RESPONSE #1: See response to Comment No. 3.</p> <p>ECOLOGY COMMENT #2: See comment number 3 and number 5.</p> <p>RL/WHC RESPONSE #2: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 3.</p> <p>(Note: As of May 24, 1995, due to the outcome of the DQO process and changes in closure strategy this section of the closure plan has been deleted.)</p> <p>ECOLOGY COMMENT #1: <u>7-7/33</u>. Soil sampling will need to be integrated into the sampling and analysis. See comments number 3 and 5.</p> <p>RL/WHC RESPONSE #1: See response to Comments Nos. 3 and 5.</p> <p>ECOLOGY COMMENT #2: See comment number 3 and number 5.</p> <p>RL/WHC RESPONSE #2: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 3.</p> <p>(Note: As of May 24, 1995, due to the outcome of the DQO process no sampling for closure determination will be performed.)</p> | Closed per<br>UMM of<br>9/8/93  |
| 39. | <p>ECOLOGY COMMENT #1: <u>7-9/3-24</u>. The contents of section 7.4 are inadequate. The decommissioning work plan must be submitted to allow the procedure to be evaluated as part of the closure.</p> <p>RL/WHC RESPONSE #1: The work plan will be written just prior to the start of decontamination operations. A copy of the decommissioning work plan will be provided on an information only basis to Ecology. The decommissioning work plan will specify the details for field implementation of the closure activities described in Section 7.0.</p>  | Closed per<br>DQO of<br>5/24/95 |

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After reviewing Section 7.4, it has been determined that this section will be rewritten and expanded.

ECOLOGY COMMENT #2: The work plan will need to be incorporated into the closure plan.

The "decommissioning work plan" procedures as referenced on page 7-9, Section 7.4, are required to be detailed within the closure plan. Again, as the document is a stand alone document, the inclusion of a description of decontamination procedures within the closure plan is required by WAC-173-303-610(3)(v). In addition, the Washington State Department of Ecology's "Guidance for Clean Closure of Dangerous Waste Facilities" (Draft) dated April 1993 recommends that at the start of closure, all surface areas be visually inspected for cracks and other openings through which washing fluid may reach the environment. The guidance recommends that all identified cracks or openings be sealed with a sealant resistant to both water and any cleanser designated for use in the area. During a July 9, 1993 site visit, it was noted that the unit does not have a containment system. The decommissioning work plan procedures should identify what provisions will be made to prevent washing fluid, sandblasting sand, etc., from reaching the environment.

Concur with the revision of Section 7.4.

RL/WHC RESPONSE #2: Additional detail will be added to Section 7 and Section 7.4 in particular. The Decommissioning Work Plan will be written prior to the start of decontamination operations and will be issued separately from the closure plan. A copy of the Decommissioning Work Plan will be provided to Ecology on an information-only basis. The Decommissioning Work Plan will specify the details for field implementation of the closure activities described in Section 7.

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Per the *Hanford Federal Facility Agreement and Consent Order*, the closure plans are part of the administrative record. It is appropriate for the closure plan to reference the other documents. The administrative record provides the overall detail required to document all activities associated with closure.

ECOLOGY COMMENT #3: Regarding the first paragraph of RL/WHC's Response #2, concur with the revision of Sections 7 and 7.4 to include additional detail. In addition, the reviewer proposes to defer the identification of the level of detail to be included in the closure plan, to the DQO process, during which it is hoped that an agreement on decontamination activities to be performed during closure can be reached.

Regarding the second paragraph of RL/WHC's Response #2, the documentation of activities is not questioned, but rather, the appropriate identification, within the closure plan, of activities to be performed/conducted during closure which may require concurrence prior to implementation or design. Again, the reviewer proposes to defer the identification of activities to be performed during closure to the DQO process, during which it is hoped that an agreement on decontamination activities to be performed during closure can be reached.

COMMENT CONSOLIDATION: As agreed at the issue resolution meeting of March 24, 1994, the following comments have been closed and consolidated with Comment No. 39: No. 63 (7-4/47-49) and No. 67 (Figure 7-1).

RL/WHC RESPONSE #3: The closure plan will reflect the agreements (using process knowledge and previously agreed upon closure strategy for alkali metal storage facilities) reached at the DQO held on May 24, 1995. Due to a change in closure strategy the 4843 AMSF will not require any sampling for closure determination; therefore a decommissioning work plan will not be necessary to complete closure of this unit. All closure activities will be documented in Chapter 7 of the closure plan.

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| 40. | <p>ECOLOGY COMMENT #1: <u>7-9/29</u>. Insufficient information is provided to determine if the schedule for closure is reasonable. This is also inconsistent with the regulatory time frame allowed by the Dangerous Waste Regulations.</p> <p>A schedule for closure must include, at a minimum, the total time required to close each dangerous waste management unit and the time required for intervening closure activities which will allow tracking of the progress (WAC 173-303-610(3)(a)(vii). A discussion of the time line provided on F7-3 will help.</p> <p>RL/WHC RESPONSE #1: The estimated time for each closure activity is clearly presented in Figure 7-3 and called out in the document. Restating these time frames in the text is considered unnecessary.</p> <p>Also see response to Comment No. 39.</p> <p>ECOLOGY COMMENT #2: While the estimated time for each closure activity is clearly presented in Figure 7-3, it appears that only one round of decontamination sample verification is anticipated. In contrast, Figure 7-1, indicates that the sampling flow path anticipates or allows for two rounds of decontamination sample verification in addition to removal of contaminated sections of the building. Verify if the scenario of Figure 7-1 occurred, whether or not closure could be conducted within 180 days.</p> <p>RL/WHC RESPONSE #2: If the second round of sampling is required, it is possible that the closure activities could exceed 180 days and require an extension per WAC 173-303-610(4). The need for an extension would depend on the extent and scope of the additional sampling. The extra sampling step is included to ensure that sufficient funding and resources are available if need. The closure plan will be revised to include this information.</p> | <p>Closed per Ecology NOD Response Table of 2/28/94</p> |



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|     | <p>For sampling of the walls, see response to Comment No. 28. For soil sampling, see response to Comment No. 3.</p> <p>ECOLOGY COMMENT #2: See comment number 31 regarding the number of random samples proposed. Concur with random sampling logic.</p> <p>RL/WHC RESPONSE #2: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 31.</p> <p>(Note: As of May 24, 1995, due to the outcome of the DQO process no sampling for closure determination will be performed.)</p> |   |
| 43. | <p>ECOLOGY COMMENT #1: <u>F7-3</u>. Incorporate soil sampling.</p> <p>RL/WHC RESPONSE #1: See response to Comment No. 3.</p> <p>ECOLOGY COMMENT #2: See comment number 3 and 5.</p> <p>RL/WHC RESPONSE #2: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 3.</p>   | Closed per<br>UMM of<br>9/8/93                              |
| 44. | <p>ECOLOGY COMMENT #1: <u>8-1/52</u>. Specify the agencies that will file the survey plat.</p> <p>RL/WHC RESPONSE #1: As stated, the U.S. Department of Energy, Richland Field Office is filing the survey plat.</p> <p>ECOLOGY COMMENT #2: Concur.</p>  | Closed by<br>Ecology NOD<br>Response<br>Table of<br>7/20/93 |
| 45. | <p>ECOLOGY COMMENT #1: <u>Append C</u>. Appendix C indicates the presence of oil in some of the waste stored at the unit. Therefore, incorporate sampling and analysis for petroleum waste into the closure plan. Address potential PCB contamination.</p>   | Closed per<br>UMM of<br>9/8/93                              |

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|     | <p>RL/WHC RESPONSE #1: See response to Comment No. 4.</p> <p>ECOLOGY COMMENT #2: See comment number 4.</p> <p>RL/WHC RESPONSE #2: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 4.</p> <p>(Note: As of May 24, 1995, due to the outcome of the DQO process no sampling for closure determination will be performed.)</p>   |  |
| 46. | <p>ECOLOGY COMMENT #1: <u>Append D</u>. One of the spill reports states that NaOH formed when a container leaked allowing the waste to react with water. This contradicts earlier statements in the closure plan that only metal carbonates were formed from such an incident.</p> <p>Correct inconsistency.</p> <p>RL/WHC RESPONSE #1: See response to Comment No. 13.</p> <p>ECOLOGY COMMENT #2: See comment number 13.</p> <p>RL/WHC RESPONSE #2: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 52.</p> | Closed per<br>UMM of<br>9/8/93                               |
| 47. | <p>ECOLOGY COMMENT #1: <u>Appendix D</u>. The waste receiving procedures are not adequately defined.</p> <p>Give a detailed discussion on the procedures used for acceptance of waste at the unit. This must include any documentation available on verification of types of waste received at the unit. In other words, can it be verified that the waste identified in Appendix C table are the only wastes sent to the unit? Section 3.0 would be an appropriate location to include this discussion.</p>  | Closed per<br>Ecology NOD<br>Response<br>Table of<br>2/28/94 |

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RL/WHC RESPONSE #1: The waste acceptance criteria are discussed in Section 3.2 and elaborated on in the response to Comment No. 9. Also, both a logbook and inventory are maintained for the 4843 AMSF. The inventory is the source of Appendix C. The weekly inspections verify that the containers identified on the inventory are the only containers in the 4843 AMSF. Any waste containers not on the inventory would have generated an event fact sheet. No such "orphan" waste has been found at the 4843 AMSF. Also, the 4843 AMSF remains locked unless waste containers are being moved in or out or when the inspections occur.

The requested information on past operations is included in Section 3.0. The description of procedures used for past operation of the 4843 AMSF will not be included.

ECOLOGY COMMENT #2: The information provided in the closure plan and the response is inadequate.

Last paragraph of the response, see number 7.

RL/WHC RESPONSE #2: The statement in the previous comment is too generalized to allow for a response.

For concerns on past operating documents, see Comment No. 7, RL/WHC Response #2.

ECOLOGY COMMENT #3: Regarding the first paragraph of RL/WHC's Response #1, the additional information and description of procedures as well as the response to comment number 51 satisfies the request for a discussion of waste acceptance at the unit. This portion of the comment is considered closed.

Regarding the second paragraph of RL/WHC's Response #1, the additional information provided by responses to comments number 3, 10, 12, 23, 51, 53, 73, and 81 satisfies the request of information on past operations. This portion of the comment is considered closed.

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| 48. | <p>ECOLOGY COMMENT #1: <u>7-9/22</u>. The text states that if portions of the building do not meet the action levels presented in this closure plan, these portions will be removed and disposed of.</p> <p>This is not adequate. All remediation activities associated with the building, in regard to dangerous wastes, must be accomplished via the closure plan. This includes the potential demolition of the site.</p> <p>RL/WHC RESPONSE #1: See the second paragraph of the response to Comment No. 39.</p> <p>ECOLOGY COMMENT #2: Alternative closure options must be presented in the closure plan.</p> <p>Concur with the revision of Section 7.4 of the closure plan.</p> <p>RL/WHC RESPONSE #2: The revision of Section 7 will include more detail on disposal options if it is not possible to decontaminate portions of the building to less than the action levels.</p> <p>ECOLOGY COMMENT #3: Comment closed by Ecology NOD Response Table 7-20-93 concurrence.</p> <p>Please see comment number 15 regarding the usage of the term "action levels."</p> | <p>Closed per Ecology NOD Response Table of 2/28/94</p> |

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ADDITIONAL COMMENTS ADDED FROM THE ECOLOGY LETTER OF 7/20/93:

49. ECOLOGY COMMENT #1: General. The wastes described on page 2 of 11 of the Part A (Rev. 2 dated 5/31/91), consist of dangerous and mixed alkali metal wastes. The storage area floor plan on page 8 of 11 of the Part A (Rev. 2 dated 5/31/91), identifies storage of dangerous and mixed alkali metal wastes. Section 2.2, lines 18-28, describes the storage of dangerous and mixed alkali metal wastes. Figure 2-3 identifies storage of dangerous and mixed alkali metal wastes. Section 3.2, lines 3-4, describes the storage of dangerous and mixed alkali wastes. Section 3.3, lines 36-39, also describes the storage of dangerous and mixed alkali wastes.

Closed per Ecology NOD Response Table of 2/28/94 (pending closure plan revision)

Section 3-0[sic], lines 28 and 29, identify a nonwaste material which is also stored in the 4843 AMSF. The photograph on page 10 of 11 of the Part A (Rev. 2, dated 5/31/91), contains what appears to be containerized nonwaste material. Similarly, the photograph of Appendix E-5 contains what is identified as "nonwaste lithium metal container."

As provided by the examples above, there are contradicting descriptions and statements of the materials stored in 4843 AMSF. A detailed description of the unit within the text of the closure plan is necessary to satisfy WAC-173-303-610(3). A chronological history of the unit which provides times and waste locations/configurations within the unit is requested.

RL/WHC RESPONSE #1: The text of the closure plan (Section 2.2, pages 18 to 28; Figure 2-3; Section 3.2, pages 3 to 4; Section 3.3, pages 35 to 39; and other areas if required) will be modified to include storage of the alkali metal product materials (lithium, sodium, and sodium-potassium alloy). The descriptions in the Part A permit application will not be modified since the storage of product material is not regulated by WAC 173-303. Comment No. 10, RL/WHC Response #2 provides additional details on the past storage configurations.

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|     | ECOLOGY COMMENT #2: (Section 2.2, page 2-2, lines 18 to 28/ Figure 2-3/ Section 3.2, page 3-2, lines 3 to 4/ Section 3.3, page 3-2, lines 35-39/ Section 3.0, page 3-1, lines 28 to 29, and other areas if required). Concur with the proposal to modify the referenced sections and to provide additional details on the past storage configurations. Comment is closed.  |  |
| 50. | ECOLOGY COMMENT #1: <u>General</u> . Section 4.2 describes the 340 Facility and Tanker as maintaining records providing laboratory reports with chemical, biological, and physical analysis of samples. Copies of reports which represent the types of wastes stored at 4843 AMSF are requested. In addition, a process description which would allow a waste characterization evaluation to be made is requested.<br><br>RL/WHC RESPONSE #1: Per the Unit Managers' Meeting on September 8, 1993, it is understood that this comment is directed at Section 4.2 of the closure plan and is not a direct request for information.<br><br>As discussed in the Unit Managers' Meeting on September 8, 1992, Section 4.2 of the closure plan will be rewritten and expanded to justify and fully identify the source of the waste characterization information. Supporting information may include process knowledge, analytical data, location of where and how the waste was generated, or any other pertinent information needed to understand and explain waste characterization.<br><br>ECOLOGY COMMENT #2: Concur. Comment is closed. | Closed per Ecology NOD Response Table of 2/28/94 |
| 51. | ECOLOGY COMMENT #1: <u>General</u> . Appendix C appears to contain the April 1991 waste inventory for the 4843 AMSF. During review of the inventory, it was noted that the wastes were not presented in numerical order and also that numbers appear to have been omitted (i.e., numbers 13-43, 46, 48, etc.). Please provide an explanation of the omissions. Also, please provide an explanation of the radiological material counts. Do these counts represent the monthly radiation survey for April 1991?   | Closed per Issue Resolution Meeting of 3/24/94   |

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RL/WHC RESPONSE #1: As waste drums (both radioactive mixed and non-radioactive dangerous waste) were received into the 4843 AMSF they were numbered in a chronological order. As time passed, 39 drums of radioactive mixed waste were repackaged into 10 drums, 2 drums became 4, etc. The total amount of waste has remained constant, but the number of containers has been reduced. The duplicate containers were not included on the all-time inventory because it would have artificially increased the amount of waste stored in the 4843 AMSF. The next revision of the closure plan will have additional explanatory information added to Appendix C "Current Waste Inventory."

At any given time, the radiological material counts represent the results of the latest monthly radiological survey of the waste stored in the 4843 AMSF. This survey is performed in accordance with Health Physics procedures.

ECOLOGY COMMENT #2: Appendix C appears to contain the April 1991 waste inventory for the 4843 AMSF. During review of the inventory, it was noted that the wastes were not presented in numerical order and also that numbers appear to have been omitted (i.e., numbers 13-43, 46, 48, etc). Please provide an explanation of the omissions. Also, please provide an explanation of the radiological material counts.

Concur with the inclusion of additional explanatory information to Appendix C "Current Waste Inventory." The original comment was intended to generate a complete identification of all wastes stored at this unit

Therefore, while an explanation of the omissions is appreciated (and may explain the data gaps), please confirm if the information included within Appendix C represents the complete waste inventory for the applicable life of this unit.

Concur with the explanation of the radiological material counts. It is requested that a footnote or explanation be added to the Appendix C inventory to provide this additional information regarding the description of the wastes.



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Data Quality Objective (DQO) process for development of the sampling and analysis plan for this unit. The DQO process is expected to occur during Fiscal Year 1994 and after the issuance of Revision 1 of this closure plan. Ecology is invited to and is expected to be a major player in the DQO process.

ECOLOGY COMMENT #2: Regarding RL/WHC's Response #1, the reviewer concurs with deferral of an identification of the additional details concerning sampling parameters to the Data Quality Objective (DQO) process during which it is hoped that an agreement may be reached on sampling for closure decontamination verification purposes. Should the deficiency be resolved during the DQO process, this portion of the comment is considered closed by deferral.

Regarding RL/WHC's Response #1 proposal to revise the closure plan prior to completing the DQO process, the reviewer requests that the closure plan not be revised until after the DQO process is completed. It is Ecology's intention to be a participant in the DQO process. In addition, Ecology has recently proposed to modify the review cycle of the dangerous waste closure plans. The proposal includes a period of Unit Manager workshop meetings during which a set of notice of deficiency (NOD) comments is assigned to be resolved during the workshop meetings. The reviewer proposes to discuss this modification during a Unit Manager meeting for possible implementation if concurrence is obtained.

RL/WHC RESPONSE #2: Per the discussion at the issue resolution meeting on March 24, 1994, the actions in RL/WHC Response #1 will now be deferred to the DQO process. Also, RL/WHC Response #1 states that the results of the DQO process will be incorporated into the next revision of the closure plan.

Closure plan revisions do not start until mutual agreement is reached between the RL and Ecology Unit Managers.

As agreed during the issue resolution meeting on March 24, 1993, RL/WHC and Ecology agree to close this comment.



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|     | <p>The theoretical maximum value of the building would be 7 pallets wide x 7 pallets long x 3 pallets high for 147 pallets or 588 drums (147 x 4). This value could not be achieved in practice since there is no allowance for access into the building. The value of 588 drums can be taken as the upper limit of the capacity of the 4843 AMSF to store drums.</p> <p>The estimates of 244 drums is less than the Part A permit design capacity of 400 drums. Good engineering practice would allow for additional storage space so that the maximum storage volume could not be exceeded during operations. Also, 400 drums would allow access into the building when compared to the theoretical maximum of 588 drums. Therefore, 400 drums is a reasonable value of the design capacity that meets the physical limitations of the facility.</p> <p>The annual maximum capacity is a direct requirement of the Part A permit application and not directly required by the closure plan. The above information will not be added to the closure plan. The Part A is appropriate as is, since the 400 drums represent a maximum storage volume.</p> |                                |
|     | <p>ECOLOGY COMMENT #2: Concur. Comment is closed.</p>   |                                |
| 54. | <p>ECOLOGY COMMENT #1: <u>General</u>. Copies of the routine monthly radiation survey logs are requested.</p> <p>RL/WHC RESPONSE #1: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 2.</p>  | Closed per<br>UMM of<br>9/8/93 |
| 55. | <p>ECOLOGY COMMENT #1: <u>General</u>. It is requested that all available aerial photographs which include the unit, be made available for review by the unit manager.</p> <p>RL/WHC RESPONSE #1: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 5.</p>   | Closed per<br>UMM of<br>9/8/93 |

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| 56. | <p>ECOLOGY COMMENT #1: <u>4.0</u>. Chapter 4.0 does not include a description of the radiological characteristics of the waste. As the radioactive characteristics are intrinsic to the mixed waste, a description of the radionuclides associated with the waste is required.</p> <p>RL/WHC RESPONSE #1: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 2.</p>  | Closed per<br>UMM of<br>9/8/93                             |
| 57. | <p>ECOLOGY COMMENT #1: <u>7.3.3</u>. Describe in detail, the procedures to be utilized during the initial radiation survey identified in Section 7.3.3, page 7-4, line 6. Such description should include an identification of what type of radiation the equipment will be calibrated to detect, equipment identification by make and model number, procedures for actual survey of floor, etc. As the closure plan is a stand alone document, the inclusion of a detailed description of survey procedures is required by WAC-173-303-610(3).</p> <p>RL/WHC RESPONSE #1: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 2.</p> | Closed per<br>UMM of<br>9/8/93                             |
| 58. | <p>ECOLOGY COMMENT #1: <u>7.3.2</u>. Similarly, include procedures to perform an initial radiation survey for the walls of the building.</p> <p>RL/WHC RESPONSE #1: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 2.</p>  | Closed per<br>UMM of<br>9/8/93                             |
| 59. | <p>ECOLOGY COMMENT #1: <u>7-6/36-40</u>. The procedures of Environmental Investigation Instruction EII 1.11 are referenced for evaluation of data. This particular procedure (EII 1.11) of the EII manual was not available to the reviewer prior to issuance of this NOD Response to Response Table. Please provide a copy of EII 1.11 for review.</p>  | Closed per<br>Issue<br>Resolution<br>Meeting of<br>3/24/94 |

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**COMMENT CONSOLIDATION:** As agreed at the Unit Managers' Meeting of September 8, 1993, the following comment has been closed and consolidated with Comment No. 59: No. 76 (7-2/17-0).

**RL/WHC RESPONSE #1:** A copy of the Environmental Investigations and Site Characterization Manual (WHC-CM-7-7) has been provided to the Ecology Kennewick Office.

**ECOLOGY COMMENT #2:** During an attempted review of EII 1.11, the Manual Revision Instructions (MRI) dated October 20, 1993, indicates that EII 1.11 has been canceled. Delete the reference on page 7-6/lines 36-40 to utilize this data management evaluation. In place of the reference to utilize EII 1.11, please include a description of how the data will be statistically evaluated.

7-2/17-20 (Section 7.3). The procedures of Environmental Investigation Instruction EII 2.3 are referenced for unit characterization. This particular procedure (EII 2.3) of the EII manual was not available to the reviewer prior to issuance of this NOD Response to Response Table. Please provide a copy of EII 2.3 for review.

During an attempted review of EII 2.3, the Manual Revision Instructions (MRI) dated October 20, 1993, indicates that EII 2.3 has been canceled. Delete the reference on page 7-2/lines 17-20 to utilize this EII. It is noted that EII 1.15 and WHC-CM-4-10 were referenced. If the procedures of EII 2.3 are to be utilized, the reviewer requests that a copy be provided. It should be noted that the documents (document numbers WHC-CM-1-6 and WHC-IP-0718) provided during the December 14, 1993, Unit Manager meeting, appear to describe radiological control procedures which may be appropriate to reference in place of EII 2.3.

**RL/WHC RESPONSE #2:** Per the discussion at the issue resolution meeting on March 24, 1994, the EII will continue to be used. The closure plan will be revised to incorporate the current version of the EII or to address the same







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| 63. | <p>ECOLOGY COMMENT #1: <u>7-4/47-49</u>. Describe decontamination wash water. If decontamination procedures are to be conducted in the field, the closure plan should include a detailed description of where and under what conditions those procedures will be conducted.</p> <p>RL/WHC RESPONSE #1: The text will be modified to include additional details. However, as indicated in Comment No. 39, detailed descriptions of field activities will be part of the Decommissioning Work Plan.</p> <p>ECOLOGY COMMENT #2: Concur with the inclusion of additional details regarding decontamination wash water and field decontamination procedures.</p> <p>RL/WHC RESPONSE #2: As agreed at the issue resolution meeting of March 24, 1994 this comment has been closed and consolidated with Comment No. 39.</p> <p>(Note: As of May 24, 1995, due to the outcome of the DQO process a Decommissioning Work Plan is not necessary and will not be prepared; all closure activities will be documented in Chapter 7 of the closure plan.)</p> | Closed per<br>Issue<br>Resolution<br>Meeting of<br>3/24/94 |
| 64. | <p>ECOLOGY COMMENT #1: <u>7-5/7.3.5</u>. Please include a provision for the field team leader or assignee identified in the EII 1.5, to document factory tracking numbers (i.e., batch or lot numbers associated with factory decontamination practices) for all containers and preservatives (where applicable) utilized during closure sampling activities.</p> <p>RL/WHC RESPONSE #1: Within the Westinghouse Hanford Company (WHC) Process &amp; Analytical Laboratory (PAL), procedures are maintained that track sample containers' identification numbers relative to the sampling activities being performed. These procedures provide for site-wide tracking and are compatible with both RCRA and CERCLA requirements. The PAL procedures also require the</p>  | Closed per<br>Issue<br>Resolution<br>Meeting of<br>3/24/94 |



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|     | <p>The closure plan must specify what kind of concrete samples will be obtained (chip or core) from which locations. If random sampling is conducted, surface sampling (chip) may be the most appropriate. If biased sampling or decontamination verification after contamination confirmation is conducted, "subconcrete" sampling (core) may be appropriate.</p> <p>RL/WHC RESPONSE #1: The closure plan will be modified to identify that chip sampling will be used to collect samples from the concrete floor. Also, the text will be modified to identify that coring will be used for authoritative sampling of cracks.</p> <p>ECOLOGY COMMENT #2 Concur. Comment is considered closed. It should be noted that the reviewer's concurrence is based upon the above referenced guidance which represents the most current guidance reviewed. Should alternate sampling techniques be agreed upon during the DQO process, the reviewer requests the agreement be described/reflected in the revised closure plan.</p> <p>RL/WHC RESPONSE #2: As agreed during the issue resolution meeting on March 24, 1993, RL/WHC and Ecology agree to close this comment. All parties recognize that the DQO process may modify any commitments made in these NOD responses.</p> <p>(Note: As of May 24, 1995, due to the outcome of the DQO process and changes in closure strategy this section has been deleted.)</p> |                                |
| 66. | <p>ECOLOGY COMMENT #1: <u>Appendix G/Table G-1</u>. After the waste characteristics of Chapter 4.0 are properly identified and the sampling parameters are agreed upon, include the additional analytes (and analytical methods) to Table G-1 of Appendix G.</p> <p>RL/WHC RESPONSE #1: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 52.</p>  | Closed per<br>UMM of<br>9/8/93 |

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| 67. | <p>ECOLOGY COMMENT #1: <u>Figure 7-1</u>. Please add a rinsate component sampling flow path line to Figure 7-1.</p> <p>RL/WHC RESPONSE #1: The purpose of Figure 7-1 is to detail the primary steps required to reach closure of the facility. Each box in Figure 7-1 contains steps that are not shown for the sake of clarity. The rinsate component sampling flow path is one of the steps implied in the 'Decontaminate' boxes. Because the rinsate component sampling flow path does not lead directly to closure, it is not appropriate to include this path in Figure 7-1.</p> <p>ECOLOGY COMMENT #2: Concur with the omission of detail from Figure 7-1 for the purposes of clarity. The comment is considered closed.</p> <p>The reviewer requests an identification of possible decontamination procedures which may be utilized prior the building's release regarding radiological controls. It is the reviewer's understanding that decontamination relating exclusively to the radiation survey may occur. The reviewer requests that a description of possible decontamination procedures be included in the text of the applicable sections (Section 7.3).</p> <p>RL/WHC RESPONSE #2: As agreed at the issue resolution meeting of March 24, 1994 this comment has been closed and consolidated with Comment No. 39.</p> | Closed per<br>Issue<br>Resolution<br>Meeting of<br>3/24/94 |
| 68. | <p>ECOLOGY COMMENT #1: <u>Appendix G-5/Table G-1</u>. The referenced "analytes of interest and analytical methods." Regarding lithium, SW-846 method description 6010 does not include lithium on Table 1. Therefore, the recommended wavelength, as well as the detection limit, are requested to be identified and confirmed for lithium using method 6010.</p> <p>RL/WHC RESPONSE #1: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 52.</p>  | Closed per<br>UMM of<br>9/8/93                             |

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| 69. | <p>ECOLOGY COMMENT #1: <u>7-10/7.7</u>. Please include a provision to submit to the Dept. of Ecology Unit Manager, a copy of the field logbook upon completion of closure activities.</p> <p>RL/WHC RESPONSE #1: Including the field logbook as part of the closure plan is inappropriate and redundant. The field logbook is a quality assurance (QA) record that is maintained separately and independently from the closure plan. On this basis, it should not be requested as part of the closure plan. As a QA record, a field logbook is available for inspection by Ecology irrespective of the closure plan requirements. A field logbook could be inspected by Ecology upon request. Adding the requested provision is not necessary.</p> <p>ECOLOGY COMMENT #2: Concur with not including the field logbook as part of the closure plan. Comment is closed.</p> <p>The reviewer requests that a copy of the logbook be entered into the 4843 Alkali Metal Storage Facility administrative record (M-20-14/S-4-1).</p> <p>RL/WHC RESPONSE #2: As discussed at the issue resolution meeting on March 31, 1994, the request for entering a copy of the field logbook into the administrative record will be made an Unit Manager Meeting Action Item.</p> <p>(This request became part of action item 4-14-94:1 at the April 14, 1994 Unit Manager's Meeting.)</p> <p>As agreed during the issue resolution meeting on March 31, 1993, RL/WHC and Ecology agree to close this comment.</p> | Closed per<br>Issue<br>Resolution<br>Meeting of<br>3/31/94 |
| 70. | <p>ECOLOGY COMMENT #1: <u>7-10/7.7</u>: Please include a provision to submit to the Dept. of Ecology Unit Manager, copies of all analytical results generated during closure sampling activities including radiation surveys.</p>   | Closed per<br>Issue<br>Resolution<br>Meeting of<br>3/31/94 |





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| 73. | <p>ECOLOGY COMMENT #1: <u>Appendix C/C-11</u>. Identifies waste number 77 as having been generated at the 4843 AMSF unit. Identify what this waste represents and confirm, if applicable, whether this waste represents waste generated during an event described in Appendix D.</p> <p>RL/WHC RESPONSE #1: Waste container No. 77 was generated at the 4843 AMSF during repackaging of lithium contaminated pipe into a new container. Specifically, a piece of pipe was cut with the stub end containing about 1/8 lbs of lithium metal going into container No. 77. While the containers being repackaged can be identified, the specific containers that contained the piece of piping associated with this repackaged operation cannot be identified. The contents of container No. 77 is totally unrelated to the events discussed in Appendix D.</p> <p>ECOLOGY COMMENT #2: Concur. Comment is closed. As addressed by response #1 to comment number 51, concur with the inclusion of "additional explanatory information added to Appendix C."</p> | Closed per Ecology NOD Response Table of 2/28/94 |
| 74. | <p>ECOLOGY COMMENT #1: <u>7-3/12-13</u>. It is indicated that the wall wipe samples will be analyzed for lithium and sodium carbonates. Similarly, on page 7-4, lines 22 and 23, it is indicated that the concrete samples will be analyzed for "soluble" sodium and lithium carbonates. Appendix G, page App G-5, identifies SW-846 Method 6010 as the analytical method to be utilized. It should be noted that Method 6010 will yield detection concentrations as elements rather than as carbonate and hydroxide compounds. In the response to number 13 of the NOD, it is indicated that the plan will be modified to address both hydroxides and carbonates. If hydroxides and carbonates <u>are</u> to be sampled for, Table G-1 of Appendix G should reflect specific analytical methods <u>other</u> than SW-846 Method 6010.</p> <p>RL/WHC RESPONSE #1: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 52.</p>   | Closed per UMM of 9/8/93                         |

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| 75. | <p>ECOLOGY COMMENT #1: <u>7-6/20-22</u>. The referenced references a modification process as outlined by EII 1.4. Include a provision that the modification procedures of WAC 173-303-610(3) will be followed in the event that the closure plan must be amended.</p> <p>RL/WHC RESPONSE #1: The EII 1.4 affects only modifications to other EIIs. It has no direct effect on this or any other closure plan. If a modification to an EII occurs and an approved closure plan requires additional changes to remain current, then the change process outlined in WAC 173-303-610(3) will be followed. There is no other way to revise an approved closure plan. Adding such a statement would be redundant.</p> <p>ECOLOGY COMMENT #2: Regarding RL/WHC's Response #1, concur with the explanation of EII 1.4 as affecting only modifications to other EIIs. In comparing Sections 7.3.6.4 and 7.6, the reviewer has concluded that there may be more than one way to modify or amend the closure plan. It is requested that clarification be added to Section 7.3.6.4 which identifies that the modification process of WAC 173-303-610(3) will be followed in the event that the closure plan must be amended.</p> <p>RL/WHC RESPONSE #2: As discussed at the issue resolution meeting on March 31, 1994, Section 7.3.6.4 will be rewritten to reference the Section 7.6. Section 7.6 identifies how the approved closure plan will be modified.</p> <p>As agreed during the issue resolution meeting on March 31, 1993, RL/WHC and Ecology agree to close this comment.</p> <p>(Note: As of May 24, 1995, due to the outcome of the DQO process and changes in closure strategy this section of the closure plan has been delete. A Sampling and Analysis Plan will not be written; all closure activities will be documented in Chapter 7 of the 4843 AMSF Closure Plan.)</p> | Closed per<br>Issue<br>Resolution<br>Meeting of<br>3/31/94 |

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| 76. | <p>ECOLOGY COMMENT #1: <u>7-2/17-20</u>. The procedures of Environmental Investigation Instruction EII 2.3 are referenced for unit characterization. This particular procedure (EII 2.3) of the EII manual was not available to the reviewer prior to issuance of this NOD Response to Response Table. Please provide a copy of EII 2.3 for review.</p> <p>RL/WHC RESPONSE #1: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 59.</p> <p>Note: As of May 24, 1995, due to the outcome of the DQO process and changes in closure strategy this section of the closure plan has been deleted.</p> | Closed per<br>UMM of<br>9/8/93                               |
| 77. | <p>ECOLOGY COMMENT #1: <u>7-3/43</u>. During a site visit on July 9, 1993, several visible cracks were noted. Delete the statement regarding "no visible cracks within the floor."</p> <p>RL/WHC RESPONSE #1: This sentence will be deleted.</p> <p>ECOLOGY COMMENT #2: Concur. This comment is closed.</p>   | Closed per<br>Ecology NOD<br>Response<br>Table of<br>2/28/94 |
| 78. | <p>ECOLOGY COMMENT #1: <u>2-2/33-35 and 7-3/44-46</u>. During a site visit on July 9, 1993, the concrete control joints/seams were noted to be filled with dirt rather than rubber. Correct the descriptions.</p> <p>RL/WHC RESPONSE #1: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 27.</p>   | Closed per<br>UMM of<br>9/8/93                               |
| 79. | <p>ECOLOGY COMMENT #1: <u>7.3.3</u>. During a site visit on July 9, 1993, the concrete control joints/seams appeared to be the "saw cut 1/8" wide X 1/4" deep" variety, rather than keyed construction joints (as not differentiated on Drawing Number FSK-70E-164 of Appendix B). Include a description of the control joints/seams within the text.</p>   | Closed per<br>UMM of<br>9/8/93                               |

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| RL/WHC RESPONSE #1: As agreed at the Unit Managers' Meeting of September 8, 1993, this comment has been closed and consolidated with Comment No. 27. |  |  |
| 80.  | ECOLOGY COMMENT #1: 7.3.3. During a site visit on July 9, 1993, the dirt within about a foot long section of concrete control joint was removed. A substantial crack was noted to run the length of the dirt-cleared section. Prior to Revision 1 of the closure plan, propose to identify and document the extent of this crack noted within the control joint.<br><br>RL/WHC RESPONSE #1: All cracks will be identified and included in the sampling plan. Some of the cracks are located inside of the current (October 1993) radiation zone. To keep the personnel's radiation exposure as low as reasonably achievable, the identification of the cracks will occur after the following events occur: removal of the radioactive mixed waste from the facility and the evaluation of the status of the radiation zone and radiological controlled area at the 4843 AMSF for potential release.<br><br>ECOLOGY COMMENT #2: Regarding RL/WHC's Response #1, concur with the inclusion of an identification of all cracks in the closure plan until <u>after</u> the described evaluation of the status of the radiation zone and radiological controlled area at the 4843 AMSF unit for potential release. The reviewer requests that the closure plan not be revised until after the unit can be described in detail (i.e., after the radiological evaluation).<br><br>RL/WHC RESPONSE #2: As discussed at the issue resolution meeting on March 31, 1994, the closure plan revision will not start until after completion of the DQO process and the radiation survey. Also, the revision will not start until both the RL and Ecology Unit Managers agree that it is appropriate to start.<br><br>As agreed during the issue resolution meeting on March 31, 1993, RL/WHC and Ecology agree to close this comment. | Closed per<br>Issue<br>Resolution<br>Meeting of<br>3/31/94 |



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|     | <p>forklifts operating on smooth concrete floors. The tire tracks are unrelated to closure of this or any other dangerous waste treatment, storage, or disposal facility.</p> <p>ECOLOGY COMMENT #2: Regarding the first, second, and third paragraphs of RL/WHC's Response #1, concur with the additional information and request that it be included in the closure plan.</p> <p>Regarding the fourth paragraph of RL/WHC's Response #1, photographs of the described oil stains were provided during the Unit Manager's meeting on February 18, 1994. The reviewer proposes to defer the possible incorporation of oil stains into the decontamination confirmation process to the DQO process during which it is hoped that an agreement may be reached on closure objectives.</p> <p>COMMENT CONSOLIDATION: As agreed at the issue resolution meeting of March 24, 1994, the following comment has been closed and consolidated with Comment No. 81: No. 84 (7.3).</p> <p>RL/WHC RESPONSE #2: As discussed at the issue resolution meeting on March 31, 1994, RL/WHC agrees to address the oil stains in the DQO meetings. Also, the oil stains, in conjunction with the radiation survey, may be used for determining locations for biased sampling.</p> <p>As agreed during the issue resolution meeting on March 31, 1993, RL/WHC and Ecology agree to close this comment.</p> |  |
| 82. | <p>ECOLOGY COMMENT #1: <u>2-3/12-18</u>. During a site visit on July 9, 1993, it was noted that security controls have changed from those described where referenced. Revise the description accordingly.</p> <p>RL/WHC RESPONSE #1: The closure plan text will be modified to reflect the current site security control.</p>  | Closed per Ecology NOD Response Table of 2/28/94 |

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| ECOLOGY COMMENT #2: Concur. Comment is closed. |  |  |
| 83.  | <p>ECOLOGY COMMENT #1: <u>7.3</u>. During a site visit on July 9, 1993, it was mentioned that a radiological survey may be conducted at the unit <u>prior</u> to the approval of the closure plan. Describe how this will affect the closure plan.</p> <p>RL/WHC RESPONSE #1: The effect on the closure plan will be minimal. The presence or absence of radiological contamination or radiological control zones does nothing to modify the WAC 173-303 requirements for operating or closing a dangerous waste storage unit. The same types of analyses, management practices, and safety concerns on the dangerous waste and dangerous waste portions of mixed waste will continue to be addressed. If the radiological control zone inside the 4843 AMSF is released, there is no change in the unit's status as a dangerous waste storage unit.</p> <p>Elimination of the radiological control zone is an example of good management practice. If the radiological survey can release the radiological control zone in the 4843 AMSF, it will provide the following benefits: reduced sampling cost because no radioactive samples would be generated; reduced cleanup costs because no radioactive or mixed waste would be generated; and increased worker safety because there would be no radiation exposure.</p> <p>The closure plan would be modified to identify that the unit had been surveyed and released as a radiological control zone prior to beginning closure as a dangerous waste storage unit.</p> <p>ECOLOGY COMMENT #2: RL/WHC's Response #1 addresses the scenario of the unit being released from radiological controls. If radiological contamination exists, the reviewer has requested that the information of the contamination be utilized during the selection of biased sample locations. The reviewer requests that the utilization of radiological contamination information, if applicable, to select biased sample locations for decontamination confirmation purposes, be</p> | Closed per the Issue Resolution Meeting of 3/31/94 |

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|     | <p>deferred to the DQO process during which it is hoped that an agreement may be reached on closure objectives.</p>  |   |
|     | <p>RL/WHC RESPONSE #2: As discussed at the issue resolution meeting on March 31, 1994, RL/WHC concurs.</p>   |   |
|     | <p>As agreed during the issue resolution meeting on March 31, 1993, RL/WHC and Ecology agree to close this comment.</p>  |   |
| 84. | <p>ECOLOGY COMMENT #1: 7.3. Through the NOD and response process, it appears that there is an agreement that biased sampling is appropriate and will be utilized during closure activities. Unlike the description on page 7-3 of incorporating survey results into a biased sampling plan relating to the walls, the description of the initial radiation survey of the floor on page 7-4 does not include the incorporation of the survey results as defining biased sampling locations. Include provisions within Section 7.3.3 to incorporate the results of the radiation <u>and</u> visual surveys to define biased sampling locations relating to the floor. The provisions should include a precise method of locating those sampling locations generated during the visual and radiation surveys. Please note, the sampling location scale utilized in Figure 7-2, on page F7-2, would be insufficient to define/determine the biased sample locations.</p> <p>RL/WHC RESPONSE #1: Random sampling plus biased sampling of any cracks (to be added to the closure plan) is considered adequate for sampling the floor. This strategy is also consistent with other closure plans. Unless notable staining, discoloration, or corrosion is found in the concrete floor after waste removal, visual survey for biased sampling will not be added to the closure plan. The inclusion of radiation survey results for determining floor sampling locations will depend on the results of the efforts to release the radiation zone in the 4843 AMSF. If appropriate, those results may be used to determine sampling locations.</p> | <p>Closed per<br/>Issue<br/>Resolution<br/>Meeting of<br/>3/24/94</p> |





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| 87. | <p>ECOLOGY COMMENT #1: <u>2-2/37-38</u>. During a site visit on July 9, 1993, it was noted that electric service was not available. Please evaluate this to determine if service will be available during closure activities. If it is found that the previous electric service will not be restored, modify page 2-2, lines 37-38 and provide for an alternate light source to be available during closure activities.</p> <p>RL/WHC RESPONSE #1: The status of the electrical service to the building will be determined and the text of the closure plan will be modified accordingly.</p> <p>ECOLOGY COMMENT #2: Concur. Comment is closed.</p>   | Closed per Ecology NOD Response Table of 2/28/94 |
| 88. | <p>ECOLOGY COMMENT #1: <u>7-7/7.3.9</u>. Please include that split or duplicate samples will be provided to Ecology upon request.</p> <p>RL/WHC RESPONSE #1: The requested provision is outside the scope of the closure plan and is covered by existing agreements and, therefore, will not be included. The <i>Hanford Federal Facility Agreement and Consent Order</i>, Article XXXV, Paragraph 102, requires notification of EPA and Ecology not less than 5 days prior to sampling. At such time, EPA and Ecology may, at their discretion, collect their own split or duplicate samples.</p> <p>ECOLOGY COMMENT #2: Concur. Comment is considered closed. The reviewer requests that a status of planned activities such as radiological release surveys, decontamination activities related to the RCRA closure, sampling, etc., continue to be provided at the monthly Unit Manager meetings. It is the reviewer's opinion that five days notice prior to sampling may be insufficient time to organize Ecology's collection of split or duplicate samples.</p> <p>(Note: As of May 24, 1995, due to the outcome of the DQO process no sampling for closure determination will be performed.)</p> | Closed per Ecology NOD Response Table of 2/28/94 |

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